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Three Addresses
ON
THE FUTURE OF THE POOR-LAW INFIRMARY.

Read at a Discussion at the Harveian Society on Dec. 16th.

I.

BY C. M. WILSON, M.D. LOND., M.R.C.P. LOND.,
PHYSICIAN TO OUT-PATIENTS, ST. MARY'S HOSPITAL, AND DEAN OF THE MEDICAL SCHOOL; CONSULTING PHYSICIAN TO THE PADDINGTON INFIRMARY.

IN opening a discussion on the future of the Poor-law infirmaries we are confronted at the outset with the fact that as we know them they have no future. We are concerned with what will replace them. We have to consider what changes are likely to take place in their constitution. Now the answer to that question will be determined not solely on medical or even on administrative grounds, but partly by political considerations. The issue is accordingly at the mercy of so many factors that prophecy is more than usually idle. I shall therefore confine myself to an analysis of the significance of certain movements and tendencies, only questioning whither they are taking us. I can but pin together ideas, in the hope that this discussion, by ventilating them, will clear the air. At any rate, they may serve as headings or pivots around which this debate may hinge.

Where so much is nebulous it is only prudent to review the infirmaries as they are at present, in order that we may discover whether they possess features that wear an air of permanence. There are certainly two such features. The first is the part these institutions can play, and inevitably must play, in meeting the requirements of the country in the matter of hospital accommodation, and the second is their sphere in the domain of education.

The Infirmary and the Provision of Hospital Accommodation for the Country.

Concerning the first, I would say this—that when you are asked how many hospital beds are available in the country, and how many are necessary, the question cannot be completely answered by delving into statistics. It is not enough to say that there are some 90,000 Poor-law beds, and that of these on an average, and not only in the summer months, some 30,000 are empty; that the number of beds in voluntary hospitals is this figure, and the number of patients on their waiting lists is that figure, though you have here figures for political arguments. The problem is less simple. I would plead for a review of the whole question by experienced medical opinion in order that the discussion may be illuminated by the criticism that arises from intimate knowledge.

The layman, when he is taken to a London hospital and informed with appropriate harrowing details that there is a waiting list of anything from five hundred to a thousand would-be patients, is sufficiently impressed with the tragedy of the matter and the need for action. There is surely need for action, but it is less certain along what lines. He is not told that in the wards of this hospital there are not a few cases of incurable disease, and others more suitable for convalescent homes. It does not occur to him that such cases should be housed elsewhere, preferably in the country, instead of in an institution in the heart of London. You cannot, indeed, consider this question of infirmaries from the point of view of beds except as part of a larger question, and that larger question includes the provision of convalescent homes and homes for the incurable in the country. Again, I wonder if some of those who are so glib with figures are aware that in many infirmaries far too little attention has been paid to modern hygiene. Frequently the beds are so crowded together that far too little cubic space is allotted to each patient. Further, when you are told that there are 30,000 empty beds in the infirmaries, would you be surprised to learn on the authority of Burdett's Hospitals and Charities, that in 1918 22 per cent. of the beds of St. Bartholomew's, Guy's, and the London Hospital were empty? In most hospitals and infirmaries, wards are closed for a month in the summer for cleaning puposes. From the same book I find other interesting data. Here are two first-class teaching hospitals in London, and in one 20 patients annually pass through a bed, and in the other only 10. The turnover in one is exactly double that in the other. I should be reluctant, without further investigation, to draw conclusions from these facts, but it is significant that in the hospital with the greater turnover there are more nurses to each patient than in any other; that the surgical theatre accommodation is far greater; and that the assistant surgeons have wards of their own. All these factors must contribute to shortening the length of stay of a patient in hospital. I have perhaps said enough to suggest that hospital statistics are not always what they seem.

The Infirmary as an Educational Centre.

Secondly, and it is of no less importance, we have to consider the educational facilities which these institutions provide. You will concede to me that it is a matter of public importance to educate our doctors, and to keep them up to date when so educated—that is to say, to provide educational facilities before and after graduation. If you concede me this, and I think you will, then it is inconceivable that these vast mines of clinical material should not be available for educational purposes. The only danger lies in the singular apathy of the public towards medical education. Vast sums are cheerfully voted, and rightly voted, for health measures, but when a few thousands are assigned to medical education, the apostles of economy appear, and yet the very working of these schemes is dependent on the training of the doctors who have to carry them out. It is trite here to say that in the past the doctor cared for the sick individual, and that in the future he must act as adviser to the country in its most intricate problems; that a hospital should not only exist for the benefit of the sick poor in its neighbourhood, it has a larger mission than to minister to the wants of individuals.

I take it, however, that these institutions will, in the future, be made use of in pre-graduate and post-graduate instruction, in one or in both—probably in both. Let me briefly outline, then, what I consider to be the essentials of such an institution if it is adequately to fulfil its function of training the doctors of the future and of refreshing their knowledge when so trained. You must not imagine that when the consent of the Guardians is obtained it is sufficient to arrange ward demonstrations for the students. If it is to be used for teaching purposes you have to convert a Poor-law infirmary into a modern hospital. How is that done?

In the first place, the buildings must be modern. Fortunately the fabric of many of these infirmaries is quite admirable. Then it is necessary to provide all the auxiliary services, such as pathology and bacteriology and X rays and to furnish a staff of consultants. Here are sick people who, by the very nature of the limited personnel and the financial arrangements, have been provided in the past with little else than food and shelter; of modern methods of investigation and modern treatment they get, and in the nature of things can get, but little. We, who call automatically in great general hospitals for a Wassermann here, a bismuth meal there, for a blood culture or a blood count, for an X ray for early tubercle, or a test-meal for gastric disease, for the hundred and one special methods of investigation which so greatly contribute to the efficiency and fair fame of our voluntary hospitals—we are brought up sharply when we find no provision for these things. I would say to you that if you want to convert an infirmary into a modern hospital in the shortest space of time there is no way so sure as to turn students, either pre-graduate or post-graduate, into the wards. They will create the demand for minute investigations

and for the exhaustive examination of every system which are at the root of modern diagnosis and treatment. For the man who seeks to teach without this information will be lost. The great stumbling-block at the present time is the classification of patients. We need wards set aside for medical, for surgical, and for gynæcological patients. Let me illustrate the difficulty. If I were to take you into a library containing hundreds of books, and if this were my first visit and there were no assistants or the assistants were too few, I should not be able, when you asked me questions, to turn to chapter and verse. It would remain an impressive regiment of books. But if I had a card index and had around me zealous assistants in adequate numbers, it might be that between us you might go away having learnt something. That is the trouble with the infirmaries at the present time. There is the clinical material, but it is not classified. You can take students there and talk on any one subject; the cases are in the building to illustrate the subject, but it is difficult to lay hands upon them. Moreover, this state of affairs is not in the best interests of the patients. In an infirmary a patient gravely ill may be cheek by jowl with a squalling infant. This classification of material means a full resident staff and not a skeleton crew, as at so many infirmaries at present, and it means a change in the laws of admission.

The Effect of the Reformed Poor-law Infirmary on the Voluntary System.

We have, then, come to this—Poor-law infirmaries must be converted into modern hospitals to play their part in the education of the doctor and to meet the needs of the community for hospital accommodation. But immediately this is done we have two modern hospitals, the voluntary and the rate-supported Poor-law infirmary indistinguishable except on administrative grounds and in the class of case they admit. Then one of two things must happen: either they will continue to exist side by side or one will swallow the other, and if the latter happens either the voluntary hospital will staff the infirmary and be as it were the predominant partner, or to speak more precisely, it will be the secondary centre, and the infirmary the primary centre of Lord Dawson's report, or the infirmary, as a State hospital, will absorb the voluntary hospital. I shall illustrate these alternatives by the situation at Bradford, and I do not think that there will be much difficulty in convincing you that the two cannot exist side by side. Medical visitors return with the illusion that Bradford is England. To escape from theory one grasps at the facts of Bradford. There State medicine is practical politics. But we should not forget that the rest of the country, and especially London and the South, is probably less ripe for dramatic change. Bradford has a Royal Infirmary of about 200 beds, corresponding to a voluntary hospital, and St. Luke's, with more than 1000 beds, corresponding to a Poor-law infirmary. The Health Committee, which until the last election has been dominated by the Labour Party, had arranged to take over St. Luke's, with the intent to convert it into a modern hospital with a paid part-time staff. The medical profession in Bradford were not consulted, and in the main are opposed to this step. For the moment the matter is held up and an Advisory Medical Committee has been appointed, consisting of four consultants, nine general practitioners, and two whole-time officers, to advise the Health Committee. But I failed to find anyone in Bradford, on either side, who thought that the Health Committee could go back in the matter of taking over St. Luke's. Whatever happens they will have St. Luke's on their hands. That is to say, St. Luke's must inevitably become a modern hospital on the rates. Can such a hospital exist side by side with a voluntary hospital? I think not. One must go to the wall, and I will give reasons for that rather dogmatic statement.

I am aware that Dr. Addison has said that they will exist side by side for our generation, and we must allow that an opinion of this sort, based upon means of information which are only available to the official, is entitled to carry weight. But take Bradford. Suppose for a moment that St. Luke's with 1000 beds becomes a modern hospital, not affiliated to, but competing with the voluntary Royal, with its 200 beds and its unpaid staff, which will be the goal of the young consultant? In the future he will probably be more dependent in his early years on the results of his work, and less likely than hitherto to have the prop of private means. Will he, if the prestige of the institutions be equal, refuse a retaining fee of £500 per annum in his lean years? Further, all on the spot are agreed that there is not sufficient practice in the town for two sets of consultants—those of the Royal and those of St. Luke's. Yet the municipal hospital party insists that a man should not be on the staff of both hospitals. One must go to the wall, and there is, to my mind, little doubt which. I say that in these circumstances shortly the best men will be attached, not to the Royal, but to the municipal hospital. Moreover, the Royal is an ancient building of another time. Indeed, the supporters of the voluntary system had a building scheme in hand before the war. Will they be able to raise under the new conditions the necessary capital? Consider again the effect of St. Luke's as a modern hospital on the rates on the finances of the voluntary hospital. In the North workmen's subscriptions form a considerable part of the hospital's annual income. This is apparently spreading to the South. It is admitted on all hands that the new St. Luke's will mean greatly increased rates. Will the workmen contribute to both? Few competent to judge believe that he will. There is a mood, a frame of mind, indispensable to the maintenance of voluntary hospitals; can it survive the feeling that the workman is already largely supporting a municipal hospital? And once the voluntary hospital has to appeal to the rates to meet a yearly deficit it will soon be under the control of the authorities responsible for the municipal institution—that is to say, in towns such as Bradford, in the hands of the enemy, for they are out of sympathy with the voluntary system. The municipal hospital will be in a position to gather to itself the pick of the younger consultants; it will have no financial worries; it can watch the increasing embarrassment of the voluntary hospital and calmly await events. Either the voluntary hospital will be the predominant partner, affiliated to the infirmary which will act as the primary centre, or the infirmary becomes a State hospital, subordinate to nothing, and ultimately starving out the voluntary hospital. In the former, though the infirmary is on the rates, the voluntary principle is safeguarded; the latter is the beginning of State medicine. It is a perfectly clear issue, the voluntary versus the State hospital. We have to weigh the relative merits of the two systems and consider which is most desirable and most expedient. We must balance the pros and cons, for there are pros and cons in spite of the rival enthusiasts on both sides.

The Relative Merits of the Voluntary Hospital and the State Hospital.

We should come, I think, to this vexed question without prejudice. I can only envy the state of mind of those to whom it is a simple issue. On the one hand, the State hospital is the settled policy of a great party of the State—a party, incidentally, that has taken more interest in medical matters than their older rivals in politics. Moreover, it is a logical policy. It is in keeping with the very faith and creed of that party; it is certainly not a sudden move dictated by opportunism. Twenty years ago St. Luke's appointed two part-time consultants, analogous to recent appointments at the London infirmaries, and for at least half a dozen years this municipal scheme has been debated and discussed in all its bearings by their agents. They have taken counsel of some of the greatest authorities in administration, in social work, and in hospital affairs. Whatever you may say about the scheme, it is not a hasty project; it is the outcome of years of patient inquiry and debate. Moreover, there are grave defects in the voluntary system. No use has been made of the practitioner, though it has been plain for a long time to

many that in the coming reconstruction of hospitals, unless we can bring in and associate him in some way with the advancement of knowledge as apart from the mere carrying out of routine, our plans at the very outset must be shorn of much of their significance. It is not an easy problem. If we allow the practitioner not only to follow his cases when in hospital, but also to be responsible for their treatment, we shall make things very difficult for the medical superintendent. A large number of practitioners will come and go, of whom he knows little, and the question of responsibility will weigh upon his mind. But in some form or other the general practitioner must be included, and it is not to the credit of the voluntary hospitals that they have made no attempt to do it.

When an in-patient leaves the hospital he may attend out-patients, but in the majority of cases he is lost sight of. There is no follow-up system such as the American hospitals possess. So we are without records or statistics of value. It should be possible, and at no great cost, to keep in touch with patients after they leave hospital so that they come to look upon the institution as their doctor, just as private patients remain faithful to one physician for many years. This must result in more friendly relations and in records of disease of national value. And with shining exceptions, voluntary hospitals have not done all that they might have done to foster medical education, pre-graduate or post-graduate. They have lacked, too, continuity of policy, sometimes have even lacked any constructive policy whatever to set against the deliberate and considered aims of the apostles of State medicine. We have tended to play a part in the medical world which I liken to the rôle of Mr. Balfour in politics. It is a dignified rôle, but perhaps a little out of date. I have little patience, then, with those who dismiss State schemes as bureaucracy gone mad. On the other hand, it is plain to many in the profession that those responsible for this municipal scheme have not grasped one of the main principles underlying medical efficiency, the preservation of the competitive stimulus. We have many examples of State medical services, and, on the whole, the individuals composing them are nothing like so efficient as their brethren in practice, among whom this stimulus is ever at work. It is rather striking that the only State medical service which is, or was, considered highly efficient is the Indian Medical Service, where permission to engage in private practice, with the consequent financial plums, attracted a very high level of ability. The recent difficulty in attracting men to this service is no less significant to those who are acquainted with the change in Indian conditions. To Socialists competition is an evil thing, but they will never secure the support of the profession till they are weaned of theories which are opposed to everything that we know in practice.

If you ask a layman what are the advantages of the voluntary system he will talk of economy in administration and the absence of bureaucracy. But if you want to get at the heart of the merits of the voluntary system you must be a doctor, for it is to be found in the effect of competition in keeping up efficiency. Nevertheless, you cannot get away from the analogy of conscription in the war. A voluntary soldier was worth three conscripts. Some say the general practitioner is worth three medical State officials. Yet when voluntary recruiting did not meet the needs of the community we had to be content to part with the merits of individualism and to accept conscription. And if the voluntary hospital in like manner is insufficient we must seek other methods. We have come to this, that to meet the needs of the community these infirmaries must be converted into modern hospitals; that when that happens they cannot long exist side by side with the voluntary hospitals, that one system and not two systems must survive. We have considered, too, some of the pros and cons of State Medicine and the voluntary system. We are in a position to come to a decision.

If you come to the conviction that State hospitals are inevitable, then you must concentrate on eliminating the most objectionable features of a State service. As they apply to this question of hospitals they mainly consist in employing whole-timers instead of half-timers; in the duties which they assign to the medical superintendent; in a tendency to take their technical advice from a medical officer of health instead of from an advisory committee; and in the methods of election to the staff which make for wire-pulling.

The Beginnings of State Medicine.

We may consider these in detail. At Bradford it was proposed by the municipal party to put the resident and consultant staff under the medical superintendent instead of under the board of management. This is impracticable, but had I time I should have liked to dwell upon the functions of the medical superintendent of an infirmary. He is the liaison officer between the lay board of guardians and the staff, carrying out duties which are a blend of those of a hospital secretary and of a medical superintendent. But perhaps Dr. A. Stewart may tell us later the advantages of this method. This brings me to the question of part-time and whole-time workers. Take the question of clinics for child welfare. At the present time many of the posts are held by women, who go straight into this work without post-graduate experience, without even doing a resident appointment; they take rooms in a town like Bradford, and are given certain people to visit and certain duties to carry out. They have to learn on their patients, and they have to learn without any guidance; they are isolated. It is a bad system. You cannot for £500 a year expect a first-class doctor. A dustman in London gets £220 a year. If these appointments were half-time, and if some arrangement were come to by which those holding them had the run of hospital wards, and especially of the maternity and children's department, a very different state of affairs would be seen. Now let us clearly grasp the significance of these clinics. There are already between 30 and 40 whole-time medical officers in Bradford. Already the activities of these workers and their clinics have made serious encroachments on the private practice of the town. They see the child from birth upwards. It passes from one clinic to another; it is not an uncommon thing, I am told, while a practitioner is attending a case, for a visitor from the clinic to appear in his absence and to tell the mother that the child must forthwith attend this or that clinic. And this explains why the medical practitioners in the town are opposed to the medical scheme. It is not so much that they have not been consulted as that they see at last where all this is leading to. The clinics are the outpost skirmishes between State medicine and the individualism of the general practitioner. To us in London a State Medical Service appears a remote contingency. In Bradford it seems to be knocking at the door. This St. Luke's scheme is the thin edge of the wedge of a State medical service, and State medicine is the thin edge of the wedge of nationalisation. It has always seemed probable that the apostles of nationalisation would begin with medicine, for the opposition to their plans is least in that direction.

An Affiliated Hospital Service.

But if you are not convinced that the battle on behalf of the voluntary system is lost, and that a solution may yet be found along the lines of the Dawson report, then there is little time to be lost. My own opinion, from what I saw of both sides at Bradford, was that this solution is out of the question there. They are too deeply committed to the idea of a State hospital to consent to any such position subordinate to a voluntary hospital. But the more reasonable supporters of St. Luke's were quite willing to admit that such a scheme might, and probably would, work well in a town where the political opinion had a softer complexion. They also made the interesting admission that this plan, based upon the Royal as the parent institution, might have been introduced into Bradford a few years ago, but that it is too late now. I think that is of singular significance to us. If you believe that this plan of making use of a Poor-law infirmary—that is,

by affiliating it to a voluntary hospital—is the right method of solving the problem, that it is an evolutionary method, and more in keeping with our English tradition, one less revolutionary altogether than the St. Luke's scheme, then be up and doing. Presently it will be too late, economy will be less pressing, more funds will be available, and the atmosphere congenial to political experiments.

In embarking on a discussion of this nature first principles are involved. Their decision must influence the efficiency of the medical profession, and so the health of the community, more than any other movement in our generation. It is very desirable that the reluctance to engage in medical politics displayed by many of the best minds in our calling may be overcome, and that these matters may be submitted to the active criticism of all who can in any way contribute to their solution.

II.

POOR-LAW INFIRMARIES AS MUNICIPAL HOSPITALS.

BY CHARLES BUTTAR, M.A. CANTAB., M.D. LOND.

THERE are two recent happenings which should make medical men think—happenings which, as realities, far outweigh to my mind the Utopian idealism of the Dawson report. The first is the transfer last April of the Poor-law infirmary at Bradford to the City Council as a municipal general hospital; the second is the presenting to Parliament of Dr. Addison's Miscellaneous Bill (now rejected by the House of Lords), with its Clause 11, sandwiched between houses and clinical thermometers, whereby the Bradford scheme can be extended to other health authorities. In neither case has the full desire of the promoters been realised; but in both cases an attempt was made by a bureaucracy to foist a far-reaching change on the public without open consultation with the medical profession. I must confess to a feeling of respect for men who attempt these things; at the same time I feel even more respect for a profession which prepares itself to resist any attacks on its freedom which are involved in the attempt. For this reason I welcome discussion on the future of Poor-law infirmaries, as I believe that these institutions may become an essential factor, not only in medical education, but also in the medical and surgical treatment of the community. At present many of them are perhaps little better than the rubbish heaps of practice; but the enlightened policy which has led to the linking up for teaching purposes of St. Mary's Hospital and the Paddington Infirmary is pregnant with possibilities.

In discussing the matter it is well to recognise at the outset what are the conditions of the problem which have reached such a stage that they are unalterable. To me they seem to be the following:—

1. It seems certain that the Poor-law infirmaries are bound to become municipal hospitals, supported by the rates. It is asserted by almost everybody that there are not enough hospital beds. Voluntary effort is hardly likely to be able to supply more beds at present. And as a matter of fact municipal hospitals already exist at such places as Bradford, Willesden, and Isleworth.
2. These hospitals are going to have consulting staffs in addition to the medical superintendent and his resident medical officers.
3. The municipal hospitals are bound to be under public control; they will necessitate the use of public funds; and the staff will be paid out of public money.

If these premises are accepted, surely the medical profession should at once consider on what terms and conditions these municipal hospitals can be made of real value to the community.

Factors for Consideration concerning Poor-law Infirmaries.

The factors to be considered in connexion with a Poor-law infirmary or municipal hospital are: the administration, the consulting staff, the resident staff, the nursing staff, the domestic staff, the general practitioner, the supervising authority, and last, but not least, the patient. I propose briefly to indicate under each heading some possible difficulties, some of my own views, and some methods of meeting the difficulties.

Administration.—In any hospital this is really twofold. There is the administration connected with the equipment and provisioning of the hospital. This includes the appointment and supervision of nursing and domestic staffs, the supplying of instruments, drugs, and dressings, and the commissariat. There is also the administration connected with the organisation of the medical staff and the actual treatment of the patients. In a voluntary hospital these two departments of administration are usually kept distinct. The equipment and provisioning of the hospital are administered by a lay secretary. The professional administration is under a committee of the medical staff. In a Poor-law infirmary the whole administration is under a whole-time medical superintendent. I feel strongly that when Poor-law infirmaries become municipal hospitals a modification of administration will be rendered necessary, owing to the introduction of a consulting staff. It is probably wise that a medical superintendent should continue to administer the equipment and provisioning of the hospital. I am certain that on the professional side the voluntary hospital system is preferable. There should be a committee of the staff responsible for what I have called professional administration; and this committee should have direct access to the supervising authority. The army system of a single administrative head through whom all communications with headquarters must go is, in my opinion, unsuitable for civilian life, and is likely to check the flow of the ablest men on to the hospital staff. Doubtless my proposal means that the medical superintendent will come to occupy a position similar to that of the resident medical officer at some hospitals, but with full scope for his administrative capacity on the equipment and provisioning side. Possibly also with advancing age the position of the superintendent may become difficult with a younger and critical consulting staff. But his position would be just the same if he were left in his present position professionally; and after all our main consideration is the good of the community and not of individual superintendents. I believe that the good of the community will be best met by the arrangement I have proposed.

Consulting staff.—I hold that, generally speaking, appointments on the staff of municipal hospitals should be regarded as stepping stones to appointment on the staffs of voluntary hospitals, wherever voluntary hospitals can be linked with municipal hospitals. This position will perhaps be difficult for keen supervising authorities to accept. Consequently at Bradford the Labour Party, when in control of the City Council, was stated to be determined to destroy the voluntary hospital. But the voluntary hospital is an institution of which all Englishmen should be proud; and every effort should be made to keep such hospitals in a predominant position. The salaried posts at the municipal hospital will be distinctly advantageous to the younger men. The committee of the staff will be sufficient to restrain any undue youthful exuberance in treatment. Rigid observance of times of attendance is more easily enforced than with older men in busy private practice. The only possible point at issue would seem to be the predilection of the patient or his doctor for some individual older consultant or operator.

In connexion with the consulting staffs of municipal hospitals, the question arises of the use of local general practitioners as members of such staffs. Where there is no voluntary hospital in the neighbourhood and the kind of medical practitioner that we are accustomed to call a consultant is not available, it will be necessary, of course, to use the general practitioners in forming the consulting staff. Even where so-called consultants are available it may still be possible to make some appointments from amongst the local general practitioners. But in my experience a public hospital in such a place as London, staffed by general practitioners, is not a success; a condition of affairs is likely sooner or later to arise when there will be a demand for a staff of consultants, just as occurred at the Hampstead

Hospital; and in any case there is a tendency for the general practitioners appointed to a hospital in a more populous area to gravitate towards the position of consultant. This has been shown at such places as Bradford or even Norwich.

Resident staff.—These medical officers should be under the general supervision of the medical superintendent, but responsible directly to the members of the consulting staff for the cases under their charge. Their possible tenure of office should be longer than is the case with the resident staff at voluntary hospitals in order that the supply of medical superintendents may be kept up. On the other hand, an unlimited supply of would-be medical superintendents should be checked. With these resident posts available far more men than at present would be able to enter general practice with the experience that only hospital appointments can give. There is one question that arises with these resident officers. Several Poor-law guardians are now favouring the use of these officers in domiciliary treatment of Poor-law patients. It is to be hoped that the municipal authorities in taking over Poor-law infirmaries will reject this system, which seems unlikely to be good either for the community or for the medical profession.

Nursing staff.—I have only one question to raise in this connexion—a question to which I have no answer to give. It was put to me recently by a nursing authority that the matron of the hospital ought to have direct access to the supervising authority without the intervention of the medical superintendent. While, as I have stated, I am very certain about the necessity of direct access in the case of the consulting staff, I would like to hear more of the pros and cons in the case of the matron.

General practitioner.—So far it does not appear that any attempt has been made to link him up with the Poor-law or municipal hospital scheme. If it is possible to do so I am sure that much good will result. It will interest the general practitioner in what may become a unified service; it will afford facilities for post-graduate study; it will benefit the patient by assisting in continuity of treatment; and, lastly, it may help to eliminate in some measure that stupid sense of opposition between consultant and general practitioner which still exists in places. I have mentioned how G.P.'s can be used to a certain extent on the consulting staffs of hospitals. But I am not one of those who see everything that is good and beautiful only in the general practitioner. I find much of the laudation of that individual, whether by himself or others, which is so common nowadays, somewhat nauseating. I do not observe that the average general practitioner is so keenly interested in following his cases into hospital. If all general practitioners followed all their patients into hospital for the purposes of treatment, those institutions would become bear-gardens. Nevertheless, I am convinced that posts should be found for some general practitioners in Poor-law infirmaries or municipal hospitals. And these posts should be prizes to be competed for, and only awarded to the best men who apply.

It is at this point that I come up against the vexed question of out-patient departments, or, as I prefer to call them, casualty departments. I think the term out-patient department should be confined to that department of the hospital which is presided over by a consulting physician or surgeon, or by a specialist, and at which selected cases are seen for consultative purpose, for teaching students, or for special treatment. If what I call casualty departments are maintained, to which a hotch-potch of patients goes, some slightly, some gravely ill, where sifting or sorting is made, then I suggest that those casualty departments might be under the charge of general practitioners. If necessary one of the resident staff might be detailed to attend as house physician or house surgeon to the practitioner. By attaching students to his clinic as clerks and dressers an improvement would be effected in the education of the future general practitioner. He would learn something of the ways and methods of the general practitioners, which no consultant can ever teach him. In such a casualty department the general practitioner chosen for the post will act as a filter. Patients suitable for admission will be referred to the medical superintendent or to the physician or surgeon on duty in the wards. Patients useful for educational purposes or needing special treatment will be sent to the out-patient or a special department. Other cases will be treated by the general practitioner on duty. And the clerks or dressers on duty with the general practitioner could be initiated into the altruistic etiquette of practice by being instructed to inform any practitioner who may have sent a case to the hospital of the procedure adopted or the diagnosis made. The casualty departments of voluntary hospitals should be curtailed or abolished, thus saving expense to voluntary hospitals without eliminating the usefulness of casualty departments for educational purposes. Such a scheme as I have outlined is open to the objection that the British Medical Association has decided against what it calls out-patient departments, or as I have defined them, casualty departments. But I will try to show that this decision is based on a failure to appreciate the problem as a whole.

Patients.—Patients are individuals belonging to several different classes. The wealthy may be dismissed from consideration; they are not likely to avail themselves of any hospital facilities at present possible. The middle classes do not require more than ward and special department facilities, and in the present state of the country's finances I am afraid they are hardly likely to get even these. The insured person has his own doctor, and with such a municipal hospital as I have suggested experiments can be made as to the best method for obtaining for the insured person consultant and specialist advantages.

With regard to all classes of patient suitable for hospital treatment, a distinction should be drawn at once between those who live in large industrial towns and those in rural districts or small provincial towns. I do not believe that the objection to so-called out-patient departments or casualty departments applies to nearly the same extent to masses of industrial workers as to sparse populations. At present there are insufficient doctors in such areas, and they are already overworked; and the difficulties in the way of bringing all these doctors to a hospital to attend at clinics seem to me insuperable.

Therefore when we reach the dependents of insured persons it seems to me that we cannot yet scrap the whole of the casualty work of our hospitals. Limit the numbers in any way that may be thought suitable; arrange for every possible consideration to be shown to the nominal medical attendant of these people; maintain a proper service of almoners to check any abuse; but do not seek to destroy the whole fabric of casualty departments until such time as a satisfactory substitute has been found for them. In pursuit of that Will-o'-the-Wisp, the abolition of out-patient departments, the profession may land itself in the bog of public distrust.

There is yet another class for whom such casualty departments are essential, the people who are unable to pay any fees at all, and are at present Poor-law patients. It is proposed to abolish the present Poor-law; it may be superseded, but even so the patient remains, and somebody must be responsible for him. I do not believe in the people being handed over to whole-time officers of the municipal hospital. At the same time I am aware that in certain districts objections have been raised to the present system of district Poor-law medical officers. It is quite possible that the introduction of general practitioners into the hospital work in the casualty departments might lead to some more satisfactory system for linking the district medical officers to the hospitals.

Supervising authority.—This will have to be the Public Health Committee of the local authority, and therefore will be mainly a lay body. On to this committee it is possible for medical practitioners to be coöpted. But I am no great believer in such coöption as likely to be of much value to the profession. Nor do I think much of medical advisory committees. They

always become part of the machinery of the bureaucracy. More is to be expected from the professional committee of the staff.

But the main safeguard of professional interests must always be a strong, independent, voluntary body, entirely outside the machine, and able to make its criticism felt. As bureaucracy increases I have become more and more certain that such a body is essential. The trouble is that medical men seem to have neither the time nor the energy to establish and maintain such bodies.

III.

THE FUTURE OF THE POOR-LAW INFIRMARY FROM THE POINT OF VIEW OF THE GENERAL HOSPITAL.

BY E. W. MORRIS,
HOUSE GOVERNOR, THE LONDON HOSPITAL.

IN speaking of this subject from the point of view of the general hospital one has of necessity to say something of the general hospital from the point of view of itself, and perhaps also from the point of view of the Poor-law infirmary. Moreover, the hospitals are standing on such an unstable foundation themselves that their point of view is rather a movable one. They are being forced by circumstances into positions they had not previously occupied, and their outlook is changing. The view that the general hospitals used to have of the infirmaries could be stated fairly easily; their present opinion might also be set down without wasting much ink and paper; but if one could foresee and envisage the future medical service of the country and prophesy the relationship between hospitals and infirmaries in the days that are to come—"root and all and all and all"—one would be as wise as the philosopher who addressed the flower in the crannied wall. It may be that the despised infirmary may turn to be something of an Admirable Crichton who helps us all.

Failings of the Poor-law Infirmary.

The failings that have been most apparent in the average Poor-law infirmary are (I am aware of some notable exceptions): (1) that they carry the stigma of the Poor-law, and are pauper establishments; (2) they are fearfully understaffed from the medical point of view; (3) they have no consultants or specialists on their staffs; (4) the nursing arrangements are below the standard demanded in a hospital; (5) their governing body, the Guardians, have not a very broad outlook on matters relating to the treatment of the sick; (6) their general equipment is poor and their laboratory equipment nil; (7) they treat only chronic and incurable cases; (8) the stimulating effect of the presence of students is lacking.

That some of these things should be as they are is perhaps actually due to the existence of the general hospitals. If the infirmaries had been the only places for the institutional treatment of sickness, surely they would have advanced, and the stimulus we now wish to put into them would have been already there. The Guardians' attitude seems to have been: if somebody voluntarily supplies expensive laboratories, aseptic operating facilities, and other up-to-date equipment, why burden the rates with the cost of such things? But it is of little use to ruminate on what might have been. The fact is that the hospitals did exist, and that to some extent infirmaries remained inefficient because of them.

Failings of the Voluntary Hospital System.

But the hospitals, too, had their faults. And perhaps the chief fault of the voluntary system was the entire lack of system at all. There was no coördination between the hospitals; they existed as isolated units. They did not speak; their behaviour was rather that of rival tradesmen than of comrades in an army before a common foe. This fault was due to their origin, for our forbears put down the hospitals which they founded—most of them were founded in the eighteenth century—just where they liked. It was often a memorial hospital, put there for the succour of the local poor, refuge and shelter for the sick and distressed being their ideal. To investigate, fight, and destroy the sickness itself was a thing they never dreamed of.

Some of the hospitals were so close that they jostled each other, while others stood alone, overwhelmed, in an overcrowded area, their founders never having envisaged a scheme with regard to them, and presently these units began to compete and struggle for their livelihood. They could have managed to exist had they remained as refuges only, but each of them became a centre for fighting and destroying disease. This change in conception of duty and function necessarily raised the cost, and consequently competition between the charities became keener, isolating them more than ever. And now that expenditure has become so overwhelming through the war, the weakness of their origin is apparent to all. They cannot remain as units; they certainly cannot remain rivals and enemies. And so they are beginning to draw together and to hold out friendly hands towards each other. The war has done, at any rate, that much of good.

But organisation and coördination between the voluntary hospitals is surely not enough. There must be coördination between all forms of medical service—coördination which does not cramp the freedom of action of each branch, but which gives the common purpose that differentiates an army from a crowd. In such coördination hospitals and infirmaries must take an important place.

The Grouping of Institutional Medical Service.

The institutional medical service of the country may be divided into three or four groups. First, there are the voluntary hospitals to which are attached the medical schools—the great teaching hospitals. Secondly, there are the voluntary hospitals which have no schools, but which set themselves a high standard of efficiency; they are well equipped, well staffed, and carry out a great deal of original work and research; this applies especially perhaps to the special hospitals. Thirdly, there are the institutions which are not voluntarily supported—the asylums, fever hospitals, and Poor-law infirmaries.

There are, of course, in addition, a large number of other institutions, medical or semi-medical, such as sanatoriums, homes for incurables, homes for rest cure, homes for the blind, deaf, epileptic.

Relations of Voluntary Hospitals and Poor-law Infirmaries.

We are considering at the moment the future relationship of only some of the groups—namely, the voluntary hospitals and the Poor-law infirmaries. There are in London 12 hospitals with medical schools attached, and these hospitals have 6179 beds. They are extraordinarily well equipped, and on their medical staffs are consultants and specialists of the highest rank. I think, so far as London is concerned, these hospitals should form the nucleus round which the medical service groups itself. There are in Greater London about 100 hospitals without schools. The beds in these number about 8000. Some of these are quite small, more like cottage hospitals. The infirmaries in London number about 35—all important enough to have a training school for nurses—and the beds in them number 20,000 (19,981 exactly). So we have in these two groups the one with the consultant and specialist staff and the costly equipment, but with too few beds; the other lacking staff and equipment, but with ample bed accommodation.

The first of all things to be done is to cut the infirmary beds clean away from Poor-law and pauper taint. They must be hospitals to which it is no indignity to go. This change is already beginning, and the infirmaries are changing their names and becoming "hospitals," but, of course, much more than that must be done. They must become in some way linked up with the hospitals; a consultant staff must be available and all necessary equipment for high-class work must be provided or be available—X ray, bacteriological, and the rest.

Value and Application of Interim Report Scheme.

I can think of no better scheme than that outlined in the Interim Report. The infirmaries might be the primary health centres; the hospitals, those without as well as those with schools, the secondary centres, all linked up with the teaching schools. That brings us at once to a position to appreciate the magnitude of the scheme, and the best system can only be hammered out by such meetings as this. Speaking quite personally, I feel that the medical service of London—or for any other area, with necessary adaptations—should be administered by the County Council through a committee, a Council of Medical Service, appointed *ad hoc*, at least half of which should be medical men, and which should have women among its members. Such a Council would have a central general headquarters, with a permanent staff, in communication with all institutions having beds for sick people, and would know and could advise general practitioners as to the presence of empty beds of all kinds in all areas. The communal services would also be under their care, and the ambulance service, the school medical service, and the nursing service. Such a Council should allow much freedom of service in each district, local needs necessitating local differences in details of organisation, but the Council should exercise general management and supervision, and especially insist on efficient coördination between groups and areas. The scheme must be one, and must work for a common cause.

Grants from Exchequer and Rates.

Money grants for the expenses of such a scheme should be made through this Council of Medical Service, and should be derived from (1) the national Exchequer, (2) the county rates. The teaching hospitals should obtain grants in aid entirely from the national Exchequer, for their work is national and not local or parochial. The non-teaching voluntary hospitals should obtain grants in aid from both sources. The infirmaries, or municipal hospitals, from the municipal rates for upkeep, but from the national Exchequer for all capital expenditure.

All grants from either the Exchequer or the rates should be made on the recommendation of and through the Council, who should be in a position to take a general view as to the necessity of extension of facilities in any direction in any area. It will be seen that this Council would become an expert adviser on all matters of medical service, and would take the same place with regard to such service as the King Edward's Hospital Fund does with regard to the voluntary hospitals. That Fund criticises schemes, makes suggestions, approves or refers back for further consideration, plans with regard to capital expenditure, and, of course, checks very carefully the cost of general upkeep—their annual grant largely depending on efficiency in this direction.

Necessity of Abolition of Social Distinctions.

I think it important that all traces of social grading at different hospitals should be removed. It is a medical service only. Every patient should be treated, whether prince or pauper, mechanic or clerk, just wherever the best treatment for his trouble may be given. The beds in a voluntary hospital or an infirmary—the municipal hospital—should be of precisely the same standing, supervised with the same efficiency. Consultants should visit the infirmary, and surgeons should operate in well-founded theatres in the infirmary. Paupers would be admitted to either hospital or infirmary, and the Guardians should pay for the cost of treatment. The municipal hospitals would take charge of chronic and incurable cases, as now, but it should be no disgrace to be incurable. All patients other than paupers should contribute to the cost of their treatment, either through national insurance or through private insurance, or by private payment. General practitioners should have the right to admit their own cases to any municipal hospital beds and treat them when admitted, and should find the assistance of specialists available on terms to be arranged—free for certain classes of cases, not free in others.

Voluntary Hospitals under the Scheme.

The voluntary hospitals should remain voluntarily managed, and largely, but not wholly, supported by voluntary subscriptions. But such voluntary subscription should not be used to pay for the simple treatment of patients—that will have been paid for by State or personal insurance—but for investigation, experiment, research, education; for academic work by bedside and laboratory, and for the advancement of medical knowledge. They should be staffed by consultants, who would not, however, be appointed as at present. It is important that hospital and infirmary recognise that they are each part of the whole scheme; there can be no question of dictation from one to the other. This might be prevented by putting a group of infirmaries, hospitals, and the teaching hospital near at hand under one general group management—all group managements acting under the Central Council of Medical Service; and the resident medical staffs of the hospitals and the infirmaries should be interchangeable, and of equal standing. Payment of the medical staff at both hospitals and infirmaries for definite services rendered must, in my opinion, come into force. Such payment would include services rendered to all who would have a right to claim free institutional treatment—the State-insured, for instance—whoever may be eventually included under that term. For those not insured, or those privately insured, extra payment should be received, whether such services were given in the municipal hospital (the infirmary) or the voluntary hospital. Any idea that a higher grade of service is given in the voluntary hospital than in the municipal hospital must be removed. It is another kind of service. At the voluntary hospital it may include a teaching service, and patients admitted must understand that they agree to be subjects for the instruction of the future and present doctor. Some patients much prefer this, believing that they become thereby the subjects of more thorough investigation and research; there is possibly some truth in this belief.

If it is eventually decided to open beds for paying patients—that is, for patients paying full cost—and for grading payments, it should be understood that differences in payment make no difference in essential treatment, but only in the amenities—such as for private rooms, special nurses, the standard of dietary, and so on. There should be no question of putting one grade into one hospital and another into another. All hospitals, if grading is carried out at all, must take all grades. Thus an establishment which is at this moment an infirmary may take a first-grade patient, paying all residential charges and also the fees of his general practitioner and consultant; he might be a chronic case. A voluntary hospital may take a pauper, obtaining all service and treatment free to himself, but paid for by the Guardians of his parish. The great thing is to wipe out all distinction of social standing between hospitals.

Nursing Service.

It should be pointed out that in any scheme which may eventually be adopted, one of the most serious difficulties to be faced is that of the nursing service. At present the voluntary hospitals are meeting all sorts of trouble in providing efficient nurses, and without nurses any scheme for the betterment of health will be a failure. The demand for trained nurses will be greater than ever when the infirmary service is improved and becomes more specialised. Moreover, if the present agitation for an eight-hour day for nurses, by no means universally popular among them, becomes law, the 24-hour day will require three shifts instead of two, and the number of nurses will have to be further increased by 50 per cent.

Not nearly enough women are entering the profession, and a thorough investigation is required to discover why this is so. It may be a question of pay, or of hours, or of conditions of service both on duty and off; it may be that there is no outlook for the future; it may be that the scenes and smells of nursing are repugnant to many women. The training of nurses for their many and increasingly numerous kinds of duties needs careful

thought; a grading of nurses needing different degrees and different kinds of training—the hospital, the fever, the children's, the asylum, district, school, maternity—needs to be considered. It is the fact, however, and must be faced, that no scheme can succeed which begins by ignoring this key industry of the service. It might be advisable to get a committee of matrons of hospitals and infirmaries to consider any scheme put forward, and ask them to report on its feasibility from their point of view.

Summary.

To summarise. I consider that the medical service of a given area should be controlled as to general system by a Central Council of Medical Service, half of which should be medical men. Women expert in nursing, maternity, and infant welfare should sit on it. The Council should be the agents through which the national Exchequer and the county rates contribute to the cost of the hospitals, teaching and otherwise, and the infirmaries, as well as to all other branches of the service.

That the hospitals and infirmaries in an area should form a unit group, free to work out details and carry out improvements in their own group, but the whole group must come under the general jurisdiction of the Central Council, which will coördinate the working of the groups, and will also organise ancillary services—ambulance, nursing, fever, &c. That payment to a certain amount shall be received from every patient, either by personal payment or some form of insurance, or by payment by Guardians for paupers. That general practitioners may admit and take charge of their patients when admitted to the municipal hospitals, and for them the services of consultants shall be available—free or by payment. Consultants and specialists must be increased in numbers and be specially reared, but that is another story. The staffs of all hospitals, voluntary and municipal, shall be paid for treating cases, by salary for insured patients and by fees for paying cases. Voluntary hospitals shall remain voluntary in their individual management, but shall come into coördination with any general schemes inaugurated by the Central Council. Gifts to voluntary hospitals shall be mainly used for education, research, and the prevention of disease. Infirmaries shall be called by another name and become general hospitals. They shall cease to be under the control of the Guardians, but shall, with the existing hospitals, be under the control of a group managing committee, preferably a voluntary committee—e.g., the existing committee of the voluntary hospitals of the group. They should be very nearly self-supporting. The Central Council will not only be the agent for making grants, but also the agent for collecting payments for work done—e.g., for the insured, for paupers, and others. They should be the finance committee of the service. They might also be a central buying, storing, and distributing committee; a hospital labour exchange; an authority on medical education and nurses' training; and a bureau of information on all matters relating to health, collaborating with existing bodies such as the Medical Research Council, the College of Nursing, and the Consultative Council of the Ministry of Health.

I can see many difficulties in the foundation of such a scheme, or, indeed, any scheme which is to correlate bodies hitherto unrelated. It is only, however, by hearing the case stated from all points of view, as at such a meeting as this, that a scheme productive of most good and along the line of least resistance can eventually be discovered. In conclusion, I should like to thank the Harveian Society for the honour they have done me in allowing a layman to join in their deliberations. It is another instance of the unfailing courtesy of your profession, which I have met continuously in working among you for 30 years.

AT the last meeting of the Plympton (Devon) board of guardians a superannuation allowance was granted to Dr. C. E. Cooper, on his resignation, through ill-health, of the post of district medical officer, after 20 years' service.

An Address
ON
THE MARCH OF SURGERY:
LESSONS FROM AMERICA AND ELSEWHERE.

Being the Latter Part of an Address Delivered at the Opening Meeting of the Belfast Medical Students' Association, Queen's University,

BY SIR WILLIAM I. DE C. WHEELER, M.D., F.R.C.S.,
VICE-PRESIDENT, ROYAL COLLEGE OF SURGEONS, IRELAND.

THE group or team system of surgery, examples of which could be seen years ago at selected clinics, has recently attained a high degree of excellence. The most perfect existing instance of group work is probably that now carried out at Rochester, Minnesota, under the guidance of those two master-surgeons, William and Charles Mayo. I have recently visited Rochester; it might interest you to have a picture of group work as carried out in the Mayo clinic, showing the direction surgery is taking now and will take in the future. Such a picture cannot, perhaps, be contained in one address, but I will tell you about it in a diagrammatic sort of way.

The population of Rochester is about 8000, yet last year 60,000 patients presented themselves for advice. Two men have built up this vast organisation in about 25 years. From their earliest professional days the Mayos have travelled incessantly; by seeing the work of others, and by the exercise of a well-balanced judgment, they have imported to their own domicile everything of the best from the surgery of the world. So much for the advantages of travel. The Mayo clinic building is a new structure of some magnificence, fully equipped with every modern appliance, studded with chemical and pathological laboratories, and manned by a team of experts which is, I think, about 200 strong.

"*Highly Coördinated Mechanism.*"

R. O. Beard, in the journal *Lancet*, 1914, after a personal inspection of the clinic buildings, writes as follows:—

"The principal parts of the building are a highly coördinated mechanism for investigation by any combination of men and methods that the particular case may demand. The agencies of diagnosis are carried in every department to the point of perfection, and the results are funded in a bureau of record and statistics which is admirably conceived in plan and elaborately equipped in detail. There is every facility for the study of metabolic phenomena, problems of immunity and bacteriotherapy, the histogenesis of pathologic forms, the redundant types of cell growth, the chemistry of disease processes, and the alterations of post-operative function. There are a series of laboratories for gastro-enterologic analysis with dressing-rooms and diet kitchens attached and equipped with every practical device for lavage and the isolation of enteric contents.

A system of coloured signal lights ranged along the corridors announces the presence and whereabouts of each leading clinician. The bureau clerks, through a system of signals and telephone communications, keep in touch with his movements and locate him when wanted. ..... The registering and communicating devices of the bureau suggest a sort of mechanical detective agency. They give the keynote to the conduct of the clinic—viz., coöperative investigation. ..... Each floor is more or less divided into spaces for clinical observation and laboratory research.

There are rooms for eye, ear, nose, and throat cases. Genito-urinary investigations are well provided for, cystoscopic and proctoscopic examinations are made daily on a queue of patients, and a special Roentgen laboratory is attached to the rooms allotted for this work. Thirty-four rooms are assigned to the X ray laboratory, in which diagnosis and research play the larger and therapeusis the lesser part. On the third floor there are laboratories of histology, pure pathology, photomicrography, physiologic and pathologic chemistry."

A portion of the basement is devoted to a species of zoological garden, where animals are kept for experimental research, and last but not least there is a studio for eminent artists employed by the clinic. The Mayos have no monopoly of the group system; Crile and all the other great surgeons whom I was privileged to see are hurrying forward on the same lines.

Passage of a Case Through the Mayo Clinic.

Now let us take an hypothetical case and follow a patient with a goitre from the time she reaches

Rochester to the day she is discharged cured. All particulars are taken down at an office, and preliminary forms are filled up until enough information is obtained to pilot the patient to some junior clinician or laboratory worker. The clinician requires a blood count, and by pressing a button the patient is transferred by a lift to one of the many laboratories. Let us suppose the blood count does not in this case give the lymphocytosis picture to which Kocher attached so much importance as a diagnostic sign in hyperthyroidism. Yet it is believed by the clinician that the case is one of commencing Graves's disease. Only slight importance is attached to the blood picture and watch must be kept for cases of colloid goitre in neurotic girls which are often mistaken for hyperthyroid cases; the patient travels on until the doubt is cleared up, after which, by the waft of a wand, she finds herself blowing in and out of a complicated-looking machine, in order that her basal metabolism may be estimated. It is only in thyroid and pituitary disturbance that the rate of exchange between inspired and expired air is altered from the constant normal; in the blood diseases, malignant disease, &c., the basal metabolism remains the same. To this test, then, the very greatest diagnostic importance is attached. From a prognostic point of view, however, it is often found that patients with only a slightly increased basal metabolism do badly, and vice versa, so that the clinical picture is in this respect a better guide. The junior clinician in charge, provided the patient has no complications or other condition apart from the goitre, has now got sufficient data for a prima facie diagnosis. When all the preliminary work is done one of the leading physicians or surgeons—perhaps Dr. W. A. Plummer or one of the Mayos—sees the patient and analyses the deductions made. Treatment is then advised, which in this case will be operative. (Strange to say, there is a complete agreement between physicians, surgeons, and laboratory workers that surgery is the really only successful treatment for hyperthyroid cases. Taking the latter altogether, the mortality is only about 2 per cent.) After operation the patient again passes through the laboratories; the basal metabolism has come down to normal and the blood picture, if altered in the first instance, has now resumed its proper character. It is more easy to imagine than to describe the fund of scientific information which is obtained by such methods.

Post-mortem Examinations.

Once a week post-mortem examinations are made at which every doctor concerned in the case must be present. The patient may have died after gastrectomy for cancer of the stomach. There is evidence perhaps that the X ray picture was inaccurate: the radiologist is present and explains the fallacies of his critics. How was it in this case—cancer following chronic ulcer—no hydrochloric acid was found at one examination and on the same day hyperchlorhydria was reported on the chart? Those responsible come forward and give details of cases where secretion of hydrochloric acid is inhibited at the time of testing, perhaps from the sight of the tube, perhaps in relation to the time of the last meal (hence the frequent necessity of fractional gastric analyses and tests at intervals of a quarter of an hour, when the results of such examination are considered of importance). So the discussion at the post-mortem goes on until finally the cause of death is attributed, say, to leakage at the line of anastomosis; the onus is then placed on the surgeon to explain why in this case he had adopted a certain operative technique which had failed. In the Mayo Clinic material is passed through a clinical mill; the untiring interest shown in the younger co-workers has eliminated the petty quarrels of jealousy, but no politeness stands in the path of investigation which leads to the goal of scientific truth.

Surgical Technique.

It would be impossible in a short time to describe the operating theatres and surgical technique; in a place where team-work is a religion it goes without saying that the latter is simple, effective, and thorough. From 30 to 40 major operations are performed each morning in six theatres; illuminated signals in the corridors announce the name of each operation as it proceeds, and visitors are thus enabled to know without disturbing the operators exactly what work is progressing in each room.

The pathological laboratories in immediate connexion with the operating theatres are freely used; during operations specimens are constantly passing for examination, and the operative procedure is often determined by the report received a few minutes later. Great importance is attached by the workers in the laboratory to this examination of fresh living material; the cell picture of sections made of living tissues is quite different from that shown when dead cells are examined. For example, lymphocytes seen in smear preparations may not be lymphocytes at all; the change of cells into lymphocytes is a post-mortem effect. The old pathologist is comparable to the anatomist, the new to the surgeon. Exposure of the gall-bladder and ducts is facilitated by passing a large gauze wipe between the liver and diaphragm, and rotating the liver like a balance on a knife-edge. The liver easily topples over and presents its under surface by the aid of this simple device. In massive tuberculous peritonitis in the female the abdomen is opened and the finger inserted through adhesions into the pelvis, a line of cleavage is found, and—mirabile dictu—after a little manipulation, reminding one of prostatic enucleation, the Fallopian tubes—the fons et origo—appear in the conjuror's hands. There is no cutting or blunt dissection, and no ligature is used. These cases do excellently well.

Splenectomy.—Blood Transfusion.

The Talma-Morison operation for ascites is combined with splenectomy, for in this way 30 to 50 per cent. of the total blood is prevented from ever reaching the liver. Splenectomy was tried some years ago in cases of pernicious anæmia, but the results at that time did not justify the continuance of the operation. After a long interval, however, certain cases reported themselves, and had recovered sufficiently from the disease to justify the question being reopened. The bias is at present rather in favour of the operation. The blood picture did not much change in five cases, which were considered good results in a total of 50 splenectomies for pernicious anæmia and leukæmia. I am writing from memory on this point and those interested must verify it.

Transfusion of blood is done extensively; there is a roster of blood-givers in the town. Pain in the back is a first sign of reaction, and if this occurs the transfusion is stopped. Even with proper grouping, reaction and death have occurred. The cause of this reaction is not known, but careful investigation is proceeding, and the problem is not likely to remain unsolved. A case of pernicious anæmia is transfused once a fortnight; one case had 40 transfusions. They all die in the end, but the treatment is well rewarded by marked temporary improvement.

Gasserian Ganglion Operation.

The Gasserian ganglion operation appears to the onlooker like minor work; there is no blood, no shock, no hitch. A. W. Adson, who is not much more than 30 years of age, is responsible for surgical neurology. The patient is anæsthetised by a nurse, as is the custom. He is placed almost in a vertical position, his head being on a level with the head of the operator, who stands on the floor. A straight incision is made half an inch in front of the ear, the lower extremity being on the zygoma. The skull is opened with Hudson's drill and the opening enlarged with nibbling forceps. A little cerebro-spinal fluid is withdrawn to render easier the lifting upwards of the dura. The middle meningeal artery is tied and the dura propria is incised. The afferent root is divided with a specially constructed guillotine, and the operation is over. The ganglion is not avulsed or interfered with, and no trophic disturbance follows the operation; it may therefore be presumed that the trophic centre is in the ganglion or peripheral to it. Anæsthesia follows in the cornea, as is to be expected, but there is never a recurrence of the painful symptoms.

Active Principle of Thyroid Secretion.

One could proceed ad infinitum to mention points of interest—how, for instance, the active principle of thyroid secretion was discovered almost by accident in the laboratories after examination of some tons of thyroid obtained from meat factories. This substance administered to hypothyroid and myxœdematous patients produces results far in advance of any other known preparation, but it is much too expensive for general use. Efforts are now being made to produce it synthetically. Radium is used a week before operation in suitable malignant cases; the interval between application and operation is short owing to the adhesions and cicatrix found when a longer time is allowed to elapse. Very small capillary glass tubes are often used containing ½ millicurie radium emanation, and these are left permanently in situ. I was in the laboratory when a demonstration was being made showing that thyroid extract produced by one firm had five times the iodine contents of that produced by another. Some popular preparations were useless, probably because bacterial action had destroyed the active principle in the drying process to which the gland is subjected.

Conclusion.

It is well to ponder the fact that when we write prescriptions containing the names of drugs—perhaps potent, perhaps not—but always with hieroglyphics and symbols, we carry on the old idea of mysticism associated with mediæval medicine. The rationalistic explanation that the large decorated ℞ which ornaments all prescriptions is the initial letter of the verb "Recipe," will not do. It is the sign of Jupiter and signifies an abbreviated opening prayer to heaven that the drugs ordered may be taken without serious harm! "You humbugs of doctors," says one of Charles Reade's characters, "couldn't speak plain to save yourselves from hanging." Again, "after 15 years given to the science of obscurity Mr. Sawyer literally could not speak plain in one moment." It is suggested to the reader that the science of Æsculapius is guess-work, but the patient "goes on hoping and hoping something from traditional remedies, even when they fail and fail and fail before his eyes." The surgeon is pictured at each visit feeling the pulse and writing a prescription, "for it is a tradition of the elders that at each visit the doctor must do some overt act of medicine." Thus thinks the man in the street, and he is justified to some extent in doing so.

Already I have trespassed too much on your time and patience, and yet I have only touched on the fringe of what I wished to convey. As surgeons we must know anatomy, which remains the same; advances in physiology, pathology, biochemistry, and the allied sciences will guide us on the forward path. Ireland produced great men when individuals counted. Graves, Stokes, Tuffnell, Butcher, Corrigan, and Colles are almost all within our memory. Let us hope that in the future great teams and groups will arise, so that we may actively engage with others in the contest against disease armed with the irresistible weapon of conjoint action.

I have quoted freely from the work of those who have given and are giving us inspiration; in conclusion I will give the last two lines of Bland-Sutton's address on Science and Surgery: "Before all things let us remember that fellow-craftsmen should not be competitors, but comrades of the same honoured craft and guild."

UNIVERSITY OF CAPETOWN MEDICAL DEGREES: LOCAL RECOGNITION.—A South African correspondent informs us that the Provincial Medical Council has notified that it is prepared to recognise as registrable medical qualifications in the Cape Province of South Africa degrees of M.B. and Ch.B., and the diploma in Public Health as now instituted at the University. This recognition is regarded in South Africa as the final stage of the movement to provide full facilities at the University of Capetown for South Africans to become qualified to practise medicine and surgery in their native country without having to go abroad for any part of their training.

THE TREATMENT OF LARGE DEFECTS IN PERIPHERAL NERVE INJURIES.

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ONE of the greatest difficulties encountered in the surgical treatment of injuries to peripheral nerves has been to evolve a satisfactory procedure for dealing with extensive defects, when it is impossible to bring the two ends into close apposition by the customary simpler methods.

In the course of my investigations for the Medical Research Council it has been possible to estimate the advantages and disadvantages of many of the operations which have been advocated at various times to cope with this problem of a "gap"; and, since several practical and important conclusions may be drawn from these observations, it seems a duty to put them on record.

It is not intended in this paper to refer in any detail to the minor defects, where the ends of the nerve can be just approximated by the temporary fixation of joints in positions which shorten the course of the nerve, but only to those cases in which a considerable length of the nerve has been destroyed, and it is found impossible to bring the ends together both by modification of posture and freeing of both segments. Neither will any reference be made to such alternative procedures as tendon transplantation, since my investigations have been confined to operations upon the nerves themselves.

Examples of Various Methods.

Examples of the following methods have been under observation.

1. *Plastic operations on the nerve*, similar to those adopted for the repair of defects in tendons, in which a flap is used from the proximal, distal, or both ends. Three examples of this method have been examined, one as late as three years after the performance of the operation, and in none was there the slightest clinical evidence of any regeneration. Stooker[1] has reviewed recently all the recorded results of this operation and has found that in only one patient was there any distinct return of function, and in only one other was there even "some improvement." Huber[2] performed the flap operation in a number of animals and failed to find any histological evidence of regeneration. Stooker concludes by stating that the futility of this treatment seems to be definitely determined on clinical and experimental data. There is certainly no physiological justification for such abusive treatment of nervous tissue, yet we see this method included in many text-books as one to be considered when confronted with a defect.

2. *Incomplete nerve crossing*, which consists of the lateral implantation of the distal, or both, segments of the injured nerve into a neighbouring intact nerve trunk. Seven patients treated in this way have been under observation. In each the ulnar had been implanted into the median; in five this had been carried out in the forearm, and in two in the upper arm. None of the patients exhibited any evidence of regeneration in the distribution of the ulnar nerve, and in all seven conduction in the median had been definitely interfered with, in two very seriously.

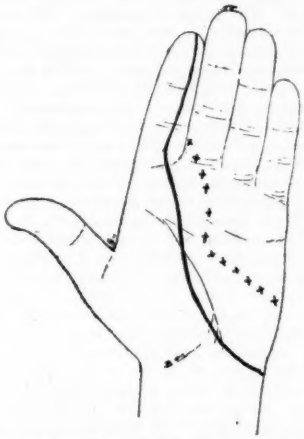
The following is a brief report of one of the patients in which the median had been less seriously damaged, and illustrates not only the failure of this method but also its effect upon the neighbouring nerve which receives the implantation.

The patient had received a gunshot wound of the left forearm on July 1st, 1916. In March, 1917, the ulnar nerve was exposed, and such an extensive defect was discovered that immediate end-to-end suture was impracticable; consequently, the distal segment of the ulnar was implanted into the inner border of the median. He came under my observation first in February, 1919, when there was complete paralysis of all the intrinsic muscles of the hand supplied by the ulnar, and definite paresis and wasting of the thenar group, together with the sensory loss shown in the

accompanying figure. The patient volunteered the information that there had been no loss of feeling in the middle finger before the operation. Since that time there has been no sign of any regeneration in the distribution of the ulnar or any alteration in the sensory loss, but the strength of the thenar muscles has improved.

As a result of this method of treatment not only has there been no recovery of the injured nerve, but in all the conduction in the previously sound nerve has been interfered with, and consequently the ultimate result has been worse than the original condition. On physiological grounds there does not appear to be any reasonable excuse for the further retention of this method, and the clinical results fully support such a conclusion.

3. "*Bridging*" by autogenous or heterogeneous nerve-grafts, a fascial sheath, or a vein. In a recent communication [3] my colleague, Mr. H. Platt, has recorded in detail 18 patients whom he has treated by bridging,



Sensory loss after implantation of the ulnar into the median nerve. Thick line, limit of anæsthesia; crosses, limit of analgesia to pin-prick.

and in every one there was a complete absence of any clinical sign of recovery. In six of these and in one other, in which the graft was inserted by another surgeon, he has re-explored the site of injury, and, by direct faradic stimulation of the nerve trunk, failed in each to produce any muscular contraction. In addition to the 18 previously recorded by Mr. Platt, I have seen 12 others, making a total of 30 patients. Most of these were under observation for a period of at least two years after the operation, and some for considerably over three years. The 30 are composed as follows :—

(*a*) *Autogenous nerve-grafts*, 18 (ulnar, 7; median, 4; musculo-spiral, 4; posterior interosseous, 1; sciatic, 1; posterior tibial, 1).

(*b*) *Heterogeneous nerve-graft*, 1 (median).

(*c*) *Catgut bridge and fascial sheath*, 10 (ulnar, 5; median, 2; musculo-spiral, 2; sciatic, 1).

(*d*) *Vein*, 1 (musculo-spiral).

None of these patients exhibited any clinical evidence of motor or sensory recovery. In view of these results bridging cannot be recommended, and although there is reliable experimental evidence of success, it is very doubtful if this method ought to be even considered in the future, especially as there are alternative procedures which have proved successful.

4. *Displacement of the nerve.*—In the case of certain nerves it is possible to displace them into such a position that their course is shortened and the two segments may be brought together end-to-end. Twenty-nine patients, on whom the ulnar nerve has been displaced to the anterior aspect of the inner condyle of the humerus, have been under observation. In the first place, it is most important to note that no complete failure has occurred in any of these, whereas after simple end-to-end suture of the ulnar without displacement the proportion of absolute failures has been as high as 30 per cent. A number of these patients show the most complete recovery of both sensation and motor power that I have yet seen after suture of the ulnar, and from the progress still proceeding in most of the other patients it seems probable that considerably better results will be seen in this group than in the series in which the suture has been performed in the region of the injury. At any rate, there is now ample proof that the manœuvre of anterior displacement of the ulnar does not in any way prejudice the result. This being accepted, it can quite easily be realised that the success of the suture is likely to be greater when it is possible to resect freely the injured ends and place the nerve after suture in a bed free from scar tissue. Mr. Platt informs me that since he has adopted this procedure as a routine in all cases of injury to the ulnar with a large defect he has not encountered a case in which he was unable to approximate the two ends of the nerve satisfactorily; and the foregoing results prove that the tension cannot have been so great as to prevent regeneration. This experience has been gained from the suture of the ulnar nerve in over 100 patients. No opportunities have been offered of judging the results of displacement of the musculo-spiral to the inner side of the arm.

5. *The "two-stage" operation.* — The first stage consists of drawing together as closely as possible after freeing the two ends of the nerve by through-and-through sutures, with the limb so fixed that the maximum relaxation is maintained. After a sufficient period has elapsed to permit stretching of the nerve and all relaxation by posture to be gradually removed, the second stage is undertaken, which consists of re-exploration of the nerve, refreshing of the ends, and accurate end-to-end suture. There does not appear to be any reason why in very extensive defects the surgical treatment should not be performed, if necessary, in three stages, but my experience of this method has been limited to six patients on whom the operation was carried out in two stages. In five of these definite evidence of regeneration is present, and the motor and sensory recovery is quite up to the average seen after any uncomplicated secondary suture of the particular nerve concerned. One, in which the sciatic was injured, shows no regeneration at the end of 12 months, but it is yet a little too early to consider this a failure. Since only one of the patients has been under observation for as long as two years, it is unwise yet to speculate upon the end-results, but the motor and sensory recovery, which is still proceeding steadily, in five out of six patients is sufficient evidence to justify the recommendation of this treatment in preference to bridging in those nerves where displacement offers no advantage.

Summary and Conclusions.

1. No clinical evidence of regeneration has been found after the flap operation (3 patients), incomplete nerve crossing (7 patients), or bridging (30 patients).

2. Definite and satisfactory regeneration has occurred after transplantation of the ulnar in front of the internal condyle of the humerus in all the 29 patients examined. It seems probable that both the motor and sensory recovery will be more complete after this manœuvre than in the series of simple end-to-end suture without displacement.

3. Normal recovery, as after end-to-end suture, has been seen in five out of six cases in which the two-stage operation was practised.

4. Defects may be treated with a reasonable prospect of success by the two-stage operation, or anterior displacement in the case of the ulnar, and consequently such futile procedures as the flap operation, lateral implantation, or bridging need not be considered.

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THE Cheltenham General Hospital announces a deficiency of £6000.

A THEORY OF CANCER.

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THE publication of Dr. A. Paine's theory of the origin of cancer in THE LANCET of Oct. 2nd was an event of great interest to all who are interested in this obscure and elusive subject. To me it was of especial interest because the views that he expresses are in many respects in close agreement with those that I have myself held for some time. Indeed, the bulk of the present communication was written more than a year before the publication of Dr. Paine's paper. I agree with his views on the origin of malignant growths in epithelial tissues too closely to wish to criticise his theory. At the same time I feel that a theory of cancer that is concerned only with epithelial tissues is incomplete. In this paper an attempt is made to construct a more widely embracing theory, and I venture to bring it forward now, realising to the full the difficulty or impossibility of testing by experimental methods the truth of some of its assumptions, but with a greater confidence than I should have had before the appearance of Dr. Paine's paper.

It will probably be agreed that an adequate theory of neoplasia must be one which will satisfy the following conditions: (1) It must be applicable to all varieties of "cancer." (2) It must explain such factors as age-incidence and the influence of chronic irritation. (3) It must account also for innocent tumours. (4) It must make it possible to trace the transition from the normal cell to the malignant cell and explain the meaning of the change from innocency to malignancy. (5) It must account for the clinical differences between innocent and malignant growths—i.e., the fatal nature of cancer. It should also show, if possible, the cause or causes of malignant degeneration, not only the physiology and pathology but also the ætiology of the disease.

In the theory about to be set out an attempt is made to fulfil these conditions, though it is not claimed for the theory that it is based on or embodies any original observations, either clinical or experimental. It will be found that it has much in common with Professor J. G. Adami's "habit of growth" theory, in which the malignant cell and its descendants are regarded as cells that have assumed the habit of growth in place of the habit of function. An attempt is here made to show the way in which this change in the "habits" of the cell originates. As the theory is based on the idea that cellular degeneration, and consequent impairment of the functioning power of the cell, is an essential factor in the origin of cancer, it would be well, at the outset, to consider briefly the physiology of the cell.

Physiological Considerations.

What are the functions of a cell? The formation of a special secretion, the building and maintenance of a protecting surface or lining layer or of a structure of a particular texture or quality are instances of special functions of the cells of different tissues. The chief general functions, common to the great majority of the cells of the body, are: (1) the function of metabolism, the power of building up food material from the blood into cell protoplasm, and of breaking down and excreting waste matter; (2) the function of reproduction; (3) the function that secures in the cell the regular succession of the stages in its life-cycle—growth, maturity, and senescence. That every living normal cell possesses these functions or properties will be readily granted; though it is necessary to say of the function of reproduction that in certain highly developed cells, such as fully developed nerve cells, the function seems to be absent.

These three general functions are properties of the individual cell, regarding each cell as a separate unit. The cell of a multicellular organism, however, must possess additional functions in order to fit it for its corporate life. It must be capable of coördinating its activities with those of the other cells of the body, so that each cell may act in unison with the cells of its own tissue and in harmony with the cells of other tissues. It is, therefore, I think, necessary to assume, firstly, that there is some "impulse" whose function is to coördinate the activities of cells, and, secondly, that every normal cell is *sensitive* to this impulse, so that the capacity to accept the coördinating impulse may be looked upon as a definite function of the cell. It may, indeed, be a function of the cell, or of certain cells, to contribute to this impulse. We may put down, then, as (4) the function of accepting the coördinating impulse.

I have dwelt on this aspect of the physiology of the cell in order more clearly to trace the effects of degeneration and the consequent imperfect carrying out of the function of the cell. But first it is necessary to search for an explanation of what initiates the degenerative change.

The Exhaustion of Functioning Power of the Cell.

Adami considers that "inborn capacities for resisting disease are the hereditary outcome of individual bodily adjustments in the same direction." As instances of such "inborn capacity" we have the coagulation of the blood that tends to check hæmorrhage after injury to a vessel wall and the formation of callus that is a factor in the repair of a fractured bone. Without such inherited "tissue instincts," if I may so call them, the individual would be seriously handicapped; and yet we are aware that individuals differ to some extent in the degree to which these tissue instincts are developed. Thus some possess a shorter coagulation time than others, and bony union after fracture is in some cases delayed or even absent though the ends may be in good apposition. Another most important "inborn capacity" is the power of responding to the destruction of cells by injury, or friction, or bacterial action by the formation of new cells by mitosis. There is some clinical evidence to show that individuals vary in the degree of perfection of their response to such stimuli. But, apart from actual proof, it is not unreasonable to believe that there are differences in this capacity, as in the blood-clotting and bone-repairing capacities. We know that there are limits to this capacity; for instance, an ulcer of the skin may be so extensive that it can never become completely covered by epithelium by growth from the edge of the ulcer.

It is, I think, reasonable to assume that there is a limit to regenerative power imposed not only by the extent of the injury, but also by the duration—that is, that there is a limit to the length of time during which epithelial cells, for instance, can respond by the formation of new cells to the long-continued action of some source of chronic irritation. If the irritation is continued over a long period a time may come when the response begins to fail. We can hardly imagine that such a failure will occur suddenly, that when this point is reached cell production suddenly ceases; it is more in accordance with biological principles to assume that the process is a gradual one, and that the failure is shown not by a sudden cessation in the production of cells, but by a falling off in the quality of the cells produced, so that imperfect cells are now produced by the exhausted mother cells.

We have now arrived at the idea that there is a limit to the power of production of perfect cells as a regenerative response to injury. I have attempted to show that, through some process of evolution, the individual has become possessed of a capacity for cell regeneration after injury. It is now necessary to inquire more particularly as to the distribution of this power in the different tissues of the body, for it is quite definitely known that regenerative capacity is not possessed by all cells or tissues in the same degree. Thus the fully developed neuron does not undergo mitosis, and so is not replaced when destroyed. Again, muscle cells have very little regenerative power, while the cells of squamous epithelium and of ordinary connective tissue have that power to a marked degree. The more highly differentiated the cell the smaller is its regenerative power.

The Coefficient of Regeneration.

Nearly every cell in the body, whatever its position, whatever its liability to injury, is capable of some degree of regeneration. This capacity seems to be an essential property of protoplasm, an inheritance shared

by all cells until suppressed by high differentiation of structure and function. And yet the possession of such a faculty must be of more potential value to some cells than to others. The glial cells, in wounds of the brain, exhibit abundant mitosis and subsequent proliferation, though reproduction of damaged tissue is imperfect. However, it so seldom can happen that this regenerative capacity is called into play in the case of glial cells that it cannot be considered to be of such practical value to cells of this tissue as it would be to epithelial cells or the cells of any tissue that is frequently exposed to injury or infection. It is not a matter which is likely to be capable of direct proof by experiment or observation; nevertheless, it seems to me that we should be justified in assuming that this varying necessity is taken account of in the development, during the course of evolution, of the "inborn capacities for resisting disease."

If we may make this assumption (and it is one that is essential to the development of this theory), it will follow that all cells or mother cells exposed by their position to frequent injury or infection, as, for instance, the cells of stratified squamous epithelium, or liable, from the nature of their special function, to the necessity for frequent reproduction, as leucocytes, will be endowed with greater regenerative powers than cells whose position protects them from frequent injury and whose special functions are such that they are not likely to be disturbed by sudden demands for increased output. We may express the regenerative capacity as the number of mitotic divisions of which the mother cell is capable in its lifetime, and speak of the imaginary figure as the "coefficient of regeneration" of the cell.

We may say, then, that each cell has its special index or coefficient of regeneration which is proportionate to the demands which the experience of ages has found will be likely to be made on the tissue, of which it is a unit. We may, I think, be quite certain that the "coefficient" will vary to some extent in the cells of corresponding tissues in different individuals, and it would seem probable that it may vary according to the state of health of the individual. Thus an individual may inherit an abnormally low coefficient for a certain tissue, or, having inherited a normal coefficient, it may become lowered by disease.

The Imperfect or Anaplastic Cell.

We have seen that it follows as a sequel to the hypothesis that there is a "limit to the power of production of perfect cells" in response to injury that subsequent division of the exhausted mother cells will result in the formation of daughter cells, that are imperfect. Von Hausemann used the word "anaplastic" to denote a change in the cell, evidenced by irregular and atypical mitosis, by which the cell, through altered distribution of nuclear material, becomes incapable of attaining perfect function and structure. It is necessary to distinguish clearly between the anaplastic or "imperfect" cell and the senile cell. Senile atrophy is a normal process and, I think, depends more on a deterioration in the quantity and quality of the food-supply of the cell than on primary degenerative changes in the cell itself. The senile cell is not necessarily one which has reached its "limit of regenerative power," in the sense in which I have used the phrase, for we must regard the cell as being endowed with a certain margin of regenerative power—that is to say, with more than just enough to cope with the normal or expected wear and tear of a lifetime; if it were not so, every tissue that had been the seat of chronic inflammation or exposed to the necessity for any exceptional effort would become exhausted and its cells anaplastic before the end of the lifetime of the individual. Again, the anaplastic cell must be distinguished from cells that have undergone some special degeneration, such as fatty degeneration, where, again, the change in the cell is due to a change in the environment.

It is now necessary to inquire in what respects the "imperfect" or anaplastic cell differs from the normal cell, or, rather, what will be the effect in particular tissues of the presence of cells that have become incapable of attaining perfect function and structure. It will be convenient to take as an example the stratified, squamous epithelium of the skin, for here we see different generations of cell from the basal cells to the surface scales. Normally there is a certain loss of surface scales, the loss being compensated for by the formation of new cells by mitotic division in the basal layers. If the loss is excessive on account of injury there will be increased mitotic activity in the basal cells. Let us suppose this abnormal activity to have gone on for so long a period that the "limit of the power of producing perfect cells" has been reached. When this point has been passed the new cells formed from that part of the basal layer will be imperfect or anaplastic. Every function of these cells will be carried out more or less imperfectly. Normally, as the cells of stratified epithelium proceed upwards, a change is taking place in the cell protoplasm; the sensitive, unstable, active protoplasm of the basal layers is transformed into a comparatively stable and inert horny substance. The same change is taking place in the intercellular protoplasm, and not only a chemical change, but a change also in texture and physical form, for in several layers it is stretched out in the form of slender filaments or "prickles." The formation of keratin is the special function of these cells.

When the cells have become "imperfect" all these changes will be imperfectly carried out, and in every function of the cell there will be evidences of degeneration. Let us trace the result in the case of each function separately.

1. The function of sensitiveness to the cöordinating impulse.

The failure or partial failure of this function will result in the removal, to a greater or less degree, of the cell from the control normally exercised by tissues of the body as a whole, through the hypothetical "impulse"; the cell has become more or less a parasite. If we may make the further assumption that the controlling agent has a restraining rather than a stimulating quality (as in Ribbert's theory of cancer), we may infer that the failure of this function will result in an unrestrained rate of growth.

2. The function that secures the regular succession of the changes in the cell that constitute its life-cycle.

Failure of this function will result in maldevelopment, so that the cell will fail to reach maturity; its growth may be arrested at any stage short of maturity, and it may be regarded as being unable to undergo senile atrophy, *so that its life may be indefinitely prolonged.*

3. The metabolic function.

Defective carrying out of this function will interfere with the complete breaking of waste products, so that the excretion of the cell, instead of being a substance which the body is well able to deal with, will be what is practically a foreign substance, and will have the effect of a toxin.

4. The special function of the cell—in this case keratinisation.

In the imperfect cell there will be complete or partial absence of this function.

The sum of these functional defects is to bring about a condition which constitutes epithelioma. (1) Accounts for the disordered and unrestrained growth; (2) for the "embryonic" appearance of the cells, and for the absence of "prickles" that is characteristic of epithelioma (for the degeneration in the nucleus will affect the intercellular protoplasm as well as the intracellular); (3) affords an explanation of the cachexia of malignant disease; and (4) for the absence of keratinisation. As regards the function of reproduction itself, there is evidence in the occasional occurrence of atypical or "maiotic" mitosis that there is apt to be some imperfection in what has been called "the extraordinary manœuvring and meticulous splitting of nuclear rods."

The malignant cell is thus essentially a degenerate cell; its apparent vigour is merely the result of its own failure to adapt itself to control. It burrows into the tissues because it follows, in its growth, the line of least resistance—the lymphatic spaces. It destroys and ulcerates passively, by interfering with the blood-supply, not by any newly acquired destructive quality. The fibrosis that tends to check its progress is possibly the reaction of fibrous tissue to the "toxin" of the degenerate cells.

It may be noted here that though the "imperfect" cell is the result of exhaustion of the regenerative capacity of the mother cells, nevertheless the actual point of exhaustion

may be reached while the tissue is healthy and no longer exposed to any chronic irritation or other stimulus to mitotic activity. Thus, a tear of the cervix uteri may have healed over, and yet the effort to repair the lesion may have so strained the regenerative capacities of the epithelial cells that, even after healing has taken place, the ordinary rate of mitosis may suffice to bring the cells to their "limit of the power of producing perfect cells"; thus carcinoma may develop as a sequel to an injury long after the effects of that injury have apparently disappeared.

It would be impossible, within the limits of a short paper, to give a detailed account of the application of this theory to all the tissues. Squamous epithelium may be taken as an example of all surface layers, whether epithelial, as in the bladder, in the acini of glands, or in the alimentary canal, or endothelial. The embryonic layer from which the tissue is derived is not a factor. The essential factors are (1) the "coefficient of regeneration," whether it is normal or lower than normal, and (2) the presence of some agent that has the effect of stimulating mitosis; as a rule, when malignant disease develops, both factors will have been at work, though it is conceivable that either factor alone might be adequate.

The Nature of the Irritant or Stimulating Agent.

Chronic irritation is generally admitted to have some relation to the origin of cancer. It acts by stimulating and, according to this theory, ultimately exhausting the regenerative capacity of the part affected. In the skin the stimulus may be the superficial destruction of tissue by trauma or infection, burns (e.g., kangri cancer), the irritation of the lip by a clay pipe, the action of chemical irritants, as in certain trades, X rays, &c. It is noteworthy that actual suppuration is rarely followed by cancer, at least until suppuration has long ceased; perhaps because suppurative inflammation is too destructive a process to act as a stimulant to epithelium. In the stomach the regenerative capacity may become exhausted by prolonged effort to heal a chronic ulcer. In the large intestine the irritant may be hard scybalous masses. Leaving surface layers, which, in view of their protective function, are necessarily endowed with a high "coefficient of regeneration," and coming to "deep" cells, which are not normally exposed to frequent injury, we find greater difficulty in fixing on the nature of the irritant. We may conclude that it will be relatively milder in its action and of shorter duration than the chronic irritation of surface cells; for, on the one hand, a destructive injury may be too violent to stimulate proliferation, and, on the other hand, these cells, possessing a small coefficient, may be soon stimulated to the point of exhaustion by a mildly acting irritant, especially if they have inherited or acquired an abnormally low regenerative capacity. In the case of the periosteum, the fact that sarcoma not infrequently follows fracture of a bone suggests that the effort at repair may in some cases bring about the exhaustion of the cells. Possibly a somewhat similar explanation may hold good for sarcoma arising in fascial layers. In endothelium and in the epithelium of gland acini the stimulus to proliferation may be bacterial; thus Bashford states that the micro-organism of influenza attacks primarily the capillaries and smaller arteries and veins, with proliferation of the endothelium.

Chorion-epithelioma.

The syncytial cells which cover the chorionic villi may be mentioned as an example of a layer of epithelial cells forming a surface layer which are yet protected by their position from irritation and not "normally" liable to infection, and so must possess only a small coefficient of regeneration. Their "expectation of life" is short; if by some chance it should happen that they fail to be absorbed and remain and multiply in the wall of the uterus, they are likely soon to become anaplastic and so to become liable to malignant proliferation. We can only speculate vaguely as to the cause of their failure to become absorbed. Little is known of the origin of this form of malignant growth beyond the fact that it is apt to be a sequel to a more innocent form of proliferation—viz., hydatidiform mole; and it is only mentioned here, not so much to strengthen the argument in favour of this theory as to indicate that there is no reason to believe that the origin of chorion-epithelioma is essentially different from that of any other kind of malignant growth.

The Lymphatic Tissues.

The limitations of a short paper forbid more than a brief reference to this part of the subject. Though the overgrowth of lymphatic glands, bone marrow, and spleen characteristic, in varying degrees, of certain anæmias is regarded as a hyperplasia rather than true tumour formation we may, I think, look upon the origin of the change as being comparable to that of neoplasia in general. To quote Adami:—

"Hyperplasia denotes proliferation, and where two cells take the place of one, one if not both of these cells must fail to preserve the normal relationship to nutrient vessel, stroma, &c. Hyperplasia thus favours anaplasia of at least a part of the cell elements of the affected part."

The lymphatic tissues, whose function, frequently called upon, is to produce rapidly great numbers of leucocytes and lymphocytes as a defensive reaction to bacterial infection, must be regarded as having normally a high "coefficient of regeneration"; the agent that provokes this defensive proliferation is bacterial infection. Only a very long-continued action of the stimulant, such as chronic alveolar sepsis, could suffice to exhaust the regenerative capacity of such cells, unless in a particular case their coefficient were abnormally low. The result of the exhaustion of the mother cells, or some of them, will be that the cells produced will be imperfect or anaplastic; they will fail to reach maturity, fail to function properly, and fail to respond to the coördinating impulse. They will be embryonic in appearance and mitosis will be imperfectly restrained. They have become cells that, to use Adami's phrase, have lost the habit of function and taken on the habit of growth. On theoretical grounds, therefore, as well as on clinical, we may be justified in regarding lymphadenosis and myelogenous leukæmia as comparable to malignant growths in other situations.

The Breast and Uterus.

The exhaustion of the regenerative capacity with consequent malignant proliferation may be favoured by the special physiological quality of the cells. Thus, in the breast and uterus, puberty, menstruation, and pregnancy make special demands on the functional and reproductive capacities of the cells. We may assume that the cells of these organs are endowed with a greater coefficient of regeneration than the cells of organs that do not have these periods of special activity. If, however, this special regenerative capacity should be insufficient, either through inherited defect or because of an added stimulus to mitosis in the shape of chronic trauma or infection, then the cells of the breast and uterus, being subject to periods of great activity, would be more likely than the cells of other organs to reach the limit of their regenerative capacity. This may be a partial explanation of the relative frequency of cancer in the breast and uterus, which also are alike in having a comparatively short "expectation of life," or at least of active life.

Innocent Tumours.

Adami points out that "the adequate theory of neoplasia must be one which will explain not cancer alone but all types of tumour formation." It is generally agreed that there is no sharp line to be drawn between innocent and malignant growths. In both we see undue proliferation of cells, loss of functioning power, degeneration in structure, and apparently purposeless growth. The cell of an innocent tumour is a degenerate cell, but its degeneration is not so complete as that of the cell of a malignant tumour. We may say that it has lost *some* of its functioning power but not all. Thus, though a highly developed function, such as the formation of a special secretion, may be entirely lost, it may retain some trace of the function that secures the regular succession of the changes of the normal life-cycle and of that which subjects it to the coördinating "impulse." It may develop to maturity, and proliferation may be restrained to a slight extent. It is necessary, however, to go beyond this in order to find an explanation of the essential difference between the innocent and the malignant growth—viz., the

tendency of the former to become stationary, to reach a stage of equilibrium with the tissues of the body. I suggest the following explanation, admitting its highly speculative character and the apparent impossibility of proof. Let us consider two factors—(1) the hypothetical "impulse," and (2) the function of the cell by which the impulse is "accepted." The impulse, possibly a body analogous to a hormone, may be looked upon as being produced in just sufficient amount to be absorbed by the normal cells whose activities it coördinates. Let us imagine a group of anaplastic cells to be formed each of which possesses a trace of the "impulse-absorbing" property. Proliferation of these cells will be incompletely restrained until the mass contains that number of cells which, combined, can just absorb the amount of "impulse" that normally would be absorbed by those cells in which the proliferation started. When that point is reached the mass of cells will have arrived at a state of equilibrium and the tumour will then, so to speak, submit to restraint and become stationary. Tumour formation may thus be looked upon as an effort towards self-limitation of malignant proliferation; when the cells retain practically no trace of functioning power the effort is unsuccessful and the tumour becomes malignant.

The tumours considered above are all blastomas—i.e., derived from unipotential cells. It might, however, be possible to explain the origin of tumours arising from pluripotential cells (teratoblastomas), such as parotid and renal mixed tumours, by following the line of argument used in this theory. In such cells we can hardly imagine an external stimulant to proliferation; the defect that makes these cells become anaplastic must be inherent in the cell itself.

A word, in conclusion, as to the "coördinating impulse." It seems to me not unreasonable to assume that there is such a substance. We are agreed that there are substances, which we call hormones, that regulate certain activities of the cells of the body. The word "impulse" is perhaps an unsuitable one; "coördinating hormone" might express the nature and mode of action of this hypothetical substance better. It may be that we may look upon this substance as being the secretion or emanation of many cells of the body, representing an elementary form of that nervous energy which, present in every cell, is most highly developed and specialised in the cells of the grey matter of the brain.

Conclusions.

Dr. Paine believes that cancer is—

"a condition dependent on a disordered growth of epithelium ..... a form of tissue degeneration."

In the following sentence he epitomises his views:—

"We thus see that cancer arises in the later or destructive stages of chronic inflammation, not in the earlier proliferative stage; moreover, it is preceded by the degeneration of the cell. We have thus tracked cancer to its source; it springs from a degenerate cell, a cell that in some manner has been damaged or injured, and from such a cell all cancer cells are descended. In this light cancer appears as a terminal phase of inflammation and as a form of degeneration ..... ."

He also believes that "a cancerous diathesis probably exists" and that cancer shows a hereditary tendency.

With these views, which Dr. Paine has supported by clinical and pathological observations, I am entirely in agreement. I have, however, endeavoured to argue that the degeneration of the cell is not directly caused by inflammation or other form of irritation, but is the result of an effort to respond to the destructive effect of inflammation prolonged beyond the regenerative powers of the tissue; such power being not unlimited, and varying in different tissues according to their "normal" necessities, and, in corresponding tissues, varying in different individuals.

I venture to claim for this theory that it fulfils the five conditions mentioned earlier in this paper that I consider essential to an adequate theory of neoplasia; there are certain features of cancer, however, that I cannot claim to be readily explainable by reference to this theory (or any other, as far as I know)—for instance, the relative immunity to cancer that seems to be possessed by some tissues, such as the urethra, the bronchi, and the first part of the duodenum.

A NOTE ON

BLOOD PRESSURE DURING INTRAVENOUS INJECTION OF QUININE.

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R. McCarrison and J. W. Cornwall have shown[1] that all salts of quinine produce a profound fall of blood pressure in sheep after intravenous injection. Many observers have advocated the treatment of malarial fever with intravenous injection of concentrated solution as a perfectly safe method of administering the alkaloid. This method was frequently used during the war in Mesopotamia and other countries where troops were attacked by malaria. So far as I am aware, there are no records of systematic observations on this subject. My own observations were made in the wards of the Campbell Hospital, Calcutta.

It may here be pointed out that during attacks of malarial fever the blood pressure is generally low, especially in the pernicious type of case. At the same time, it is in these latter cases that one looks for the most rapid introduction of quinine into the system; one is therefore tempted to administer the drug intravenously. If there is a profound fall of blood pressure during its administration, then the operation is dangerous and may even prove fatal. Cases of death following intravenous administration of quinine are rarely reported or are attributed to causes other than the operation itself. A. C. Alport has recently attributed cases of sudden death in such cases to introduction of large doses of saline, and considers that quinine should always be given in the concentrated form.

The following observations were made in order to determine the changes in blood pressure during intravenous injection of quinine. The injections were given in the apyrexial period, except in one case.

Summary of Observations.

CASE 1.—Patient suffering from recurring quartan fever. Temperature normal at the time of injection. 1st injection: Not much fall of blood pressure; 10 gr. quinine dissolved in 200 c.cm. of saline, at the rate of 10 c.cm. per minute. 2nd injection: Very little change in blood pressure; 10 gr. quinine given dissolved in 200 c.cm. saline, at rate of 10 c.cm. per minute. 3rd injection: Sudden fall of blood pressure; 10 gr. quinine dissolved in 200 c.cm. saline given in 3 minutes 30 seconds. 4th injection: Immediately after injection of a concentrated solution in 15 seconds patient became pulseless for some seconds and there were muscular twitchings, the blood pressure rising to 70 after 2 minutes.

CASE 2.—Patient suffering from recurring attacks of benign tertian fever. Temperature normal at time of injection. 1st injection: A drop of 12 mm.; 9 gr. quinine dissolved in 20c. cm. saline given in 20 seconds. 2nd injection: A drop of 12 mm.; 9 gr. quinine dissolved in 20 c.cm. saline given in 30 seconds. 3rd injection: An apparent rise of blood pressure after injection of 9 gr. quinine dissolved in 20 c.cm. saline. This rise, perhaps due to excitement, was not noticed in any other case. 4th injection: A gradual fall of blood pressure, reaching its maximum in 30 minutes; 9 gr. quinine dissolved in 200 c.cm. saline given in 10 minutes. For some hours the blood pressure remained 10 mm. lower than it was before injection.

CASE 3.—Patient suffering from recurring benign tertian fever. Temperature normal at time of injection. 1st injection: Not much fall of blood pressure; 10 gr. quinine in 200 c.cm. saline given in 20 minutes. 2nd injection: A fall of 8 mm.; 10 gr. quinine in 200 c.cm. saline given in 8 minutes. 3rd injection: Patient was pulseless for 10 seconds; 6 gr. quinine in 20 c.cm. saline given in 25 seconds. After the initial fall blood pressure rose in 1½ minutes to 60 mm., and then slowly rose to 80 mm.

CASE 4.—Patient suffering from malignant tertian fever, with crescents in blood. 1st injection: Temp. 103° F. A drop of 12 mm.; 5 gr. quinine in 10 c.cm. saline given in 10 seconds; pressure rose almost to original height six minutes after completion of the injection (injection given when temperature was 103° F.). 2nd injection: Temp. 99°6°. A drop of nearly 20 mm.; 10 gr. quinine in 20 c.cm. saline given in 15 seconds. 3rd injection: Temp. 96°4°. Very slight fall of blood pressure; 10 gr. quinine dissolved in 200 c.cm. saline given in 10 minutes.

CASE 5.—Patient suffering from recurring quartan fever. Injections: A drop of 22 to 26 mm.; 10 gr. quinine dissolved in 20 c.cm. saline given in 15 to 20 seconds.

CASE 6.—Patient suffering from recurring benign tertian fever. Injections: A drop of nearly 10 to 30 mm.; 10 gr. quinine dissolved in 20 c.cm. saline given in 15 to 25 seconds.

CASE 7.—Patient suffering from benign tertian infection. Temperature normal at time of injection. Injections: Not much fall of blood pressure; 10 gr. quinine dissolved in 20 c.cm. saline given in 15 seconds. The patient, however, had muscular twitchings and hurried breathing immediately after injection.

[1] Indian Journal of Medical Research, January, 1919.

Conclusions.

(1) Intravenous injection of quinine in concentrated solution (10 gr. in 20 c.cm.) is generally followed by a fall in blood pressure and may be followed by a disappearance of the pulse for a few seconds. (2) Intravenous injection of quinine in dilute solution (10 gr. in 200 c.cm.) may be followed by a fall in blood pressure, but this fall is neither so sudden nor so great as in the case of concentrated solutions. In many cases there is no fall of blood pressure. (3) The slower the injection is given the less is the chance of fall of blood pressure taking place. (4) The diminished blood pressure may persist for 12 hours or more after the injection. (5) Intravenous injection of quinine should always be given in very dilute form (1 in 300), and at the rate of 10 c.cm. every minute. It should never be lightly undertaken. (6) Intravenous injection of quinine in concentrated solution may be followed by transient muscular twitchings and quickness of breathing. (7) Intravenous injection of quinine should be given after making frequent and careful blood pressure observations during the operation. (8) As in malarial fever, especially of the pernicious type, blood pressure is sometimes very low, intravenous injection of quinine should be given very slowly in a dilute form, guarded by administration of pituitrin or adrenalin and application of tight bandages over the extremities.

If we take the above precautions the dangers of intravenous injection of quinine will be reduced to a minimum.

A CASE OF

COMPLETE ABSENCE OF THE CEREBELLUM.

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CASES of atrophy of the cerebellum, whether localised or generalised, do not appear to be extremely rare, but I have not been able to find any recorded case of complete absence, and accordingly the following may be of interest.

History.—K. B., a wasted female child, aged 4 months, was admitted to the Victoria Hospital for Children, Chelsea, under the care of Sir Humphry Rolleston, on August 23rd. She was the second child of healthy parents and a full-time baby. In July she had been a patient at the Westminster Hospital for hydrocephalus and spina bifida, and 4 oz. of cerebro-spinal fluid had been withdrawn from the right lateral ventricle. On admission the child was lying comfortably on her mother's lap. She had well-marked hydrocephalus, with widely open fontanelles and sutures, and exophthalmos; the head measured 19½ inches in its widest circumference. There was also a spina bifida in the region of the fourth and fifth lumbar vertebræ. The limbs were spastic and there was head retraction; the pupils reacted to light, but nystagmus and coördination could not be ascertained on account of the age and moribund condition. There were physical signs of broncho-pneumonia, but otherwise nothing of note. The child was extremely ill, took food badly, and further investigations of the nervous system were impossible. She died on August 29th.

Autopsy.—The body was thin and wasted and the head large and fluctuant; there was a spina bifida in the region of the fourth and fifth lumbar vertebræ. The lungs were the seat of broncho-pneumonia, the heart was somewhat hypertrophied, and had a widely patent foramen ovale. The other viscera were normal. The skull bones were small and widely separated. On exposing the brain it was found to be extremely distended; the brain matter formed a thin layer over the ventricles, which contained about 1½ pints of clear fluid. The cerebellum was completely absent; there was not a trace of either lobe, the vermis, the peduncles, or the pons. The fourth ventricle was covered by a thin sheet (⅛ mm.) of tissue running from the corpora quadrigemina to the dorsal surface of the medulla oblongata. On the ventral surface the pyramidal tracts appeared to run up to the corpora mammillaria. The base of the skull showed three pairs of fossæ, but there was no tentorium cerebelli. The lower end of the vertebral column was ill-developed, the arches of the fourth and fifth lumbar vertebræ were absent, as, too, were all the sacral segments.

Remarks.

The cases of atrophy or partial absence of the cerebellum of which I have been able to find records are for the most part associated with other gross lesions of the central nervous system and may be classified as follows:—

(*a*) *Cases showing general atrophy or partial absence.*—In 1853 H. Salter[1] noted the case of a male epileptic who, at autopsy, was found to have a large internal hydrocephalus and complete absence of the left cerebellar hemisphere, the vermis and the left peduncles. The space usually occupied by the cerebellum was filled by the cerebrum, so there could not have been any tentorium on this side. D. Fraser[2] also recorded a case of generalised cerebellar atrophy in a man of 35 years, whose sister, aged 20 years, showed similar signs in life, but on whom no autopsy was performed. Many others published similar cases, but those of Combette and D. Ferrier[4] are noteworthy for the extreme degree of atrophy. In the case mentioned by Combette, the cerebellum of an epileptic idiot, who died aged 11 years, was represented by a gelatinous membrane connected with the medulla by membranous peduncles. Ferrier's case was that of a feeble-minded girl, aged 15 years, whose cerebellum was represented by a minute nodule, the pons and peduncles being absent.

(*b*) *Cases of atrophy or partial absence associated with spina bifida.*—N. Solovtzoff,[5] in 1901, called attention to five such cases. In two there was complete absence of the vermis, in the other three there was merely generalised atrophy.

(*c*) *Cases of cystic cerebellum.*—A case was reported by R. S. Trevor and H. D. Rolleston[6] in which atrophy of the cerebellum was due to an internal hydrocephalus. The cerebellar tissue was destroyed by the internal pressure and a thin-walled unilocular cyst remained.

(*d*) *Cases associated with meningocele and syringomyelia.*—Leyden[7] recorded the finding of a very diminutive cerebellum in two infants with the above lesions.

(*e*) *Cerebellar atrophy associated with contralateral cerebral atrophy.*—Several such cases have been collected by M. R. Cornelius.[8]

The case recorded here appears to be a further stage of group (*b*), but is remarkable in that the absence was complete, there being no vestige of cerebellum or of the tracts leading to and from the cerebellum. The absence of the pons and cerebellar peduncles points to an error of development rather than a progressive destruction of the cerebellum by internal pressure. Moreover, had the atrophy been caused by internal pressure, as in group (*c*), one would have expected a thin cystic roof to the fourth ventricle or complete absence of roof, and not a thin layer of what appears of be normal tissue.

I am indebted to Dr. S. Wyard, who performed the autopsy, for the use of his notes, and to Sir Humphry Rolleston, under whose care the patient was admitted.

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ADDENDUM TO
THE VALUE AND INTERPRETATION OF SOME PHYSICAL MEASUREMENTS.

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AND

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THIS paper by Dr. C. B. Heald and Mr. B. Thomson appeared in THE LANCET of Oct. 9th, and we now publish the three groups of figures shown on the next page as a sequel to the article.

The explanation of the capital letters in the headings of the groups is as follows:—

(A) Expiratory force = E.
(B) Breath holding = T1.
(C) Fatigue test = T2.
(D) $\frac{\sqrt{E \times T1 \times T2}}{52{,}000}$
(E) Weight in kilos = W1.
F) Stem length = λ.
(G) Standing height.
(H) Vital capacity = V.C. (best of all readings) in c.cms.
(I) $\frac{W^{0.72}}{V.C.}$
(K) $\frac{\lambda^2}{V.C.}$
(L) Difference of actual and calculated weight, W1-W2.
(M) Correction factor = F.
(N) $\frac{V.C.^2}{W^{0.72}\lambda^2}$
(O) $\frac{V.C.^2}{F(W^{0.72}\lambda^2)}$

GROUP 3.—*Remarks from Medical Record Sheet (see opposite page).*

Case.	
1	Some nervous instability with tremor of eyelids, tongue, and fingers.
2	? signs of air fatigue or developing alcohol habit.
3	Definite history of asthma. Has coryza.
4	Many childish ailments, including scarlet fever and diphtheria.
5	Nervous. "Not well for last three days."
6	Tremor; has had operation for umbilical hernia; some nervous instability.
7	History of rheumatic fever and diphtheria.
8	History of diphtheria.
9	"Nasal obstruction." No operation ordered.
10	"Nasal obstruction." No operation ordered. Chilblains frequent.
11	Chronic mouth-breather. No operation ordered.
12	Nervous instability and tremor, and poor coördination for balance.
13	Not well owing to sea-sickness the previous night.
14	Extrasystoles; poor abdominal tone; exaggerated reflexes.
15	"Defective circulation," but "passed on appeal."
16	"Border-line case." "Under-developed."

GROUP I.—*Those with Records or Past History Complaints limited to Childish Fevers—e.g., Mumps, Measles, and Chicken-pox—also Those Rejected for Errors of Refraction only.*

Case. (A) (B) (C) (D) (E) (F) (G) (H) (I) (K) (L) (M) (N) (O)

GROUP I.—*Those with Records or Past History Complaints limited to Childish Fevers—e.g., Mumps, Measles, and Chicken-pox—also Those Rejected for Errors of Refraction only.*

Case.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(K)	(L)	(M)	(N)	(O)
1	85	90	60	0'957	50'736	85'5	168'0	3,500	0'703	2'08	6'014−	1'170	0'685	0'580
2	180	75	60	1'170	57'984	92'0	175'0	5,200	0'517	1'62	11'500−	1'520	1'195	0'787
3	110	66	79	1'050	60'702	89'0	168'5	4,300	0'642	1'84	2'800−	1'040	0'847	0'815
4	110	78	73	1'147	61'155	88'5	173'0	4,500	0'614	1'73	1'250−	1'003	0'942	0'936
5	125	74	50	0'796	61'608	87'5	168'5	4,450	0'624	1'72	1'100+	1'000	0'932	0'847
6	140	58	61	0'805	64'326	82'5	169'0	4,300	0'672	1'58	12'800+	1'630	0'942	0'578
7	100	65	55	0'687	64'326	89'0	174'0	4,800	0'605	1'65	0'800+	1'000	1'002	0'605
8	130	75	55	0'906	66'138	88'5	169'0	5,000	0'596	1'56	3'588+	1'060	1'075	0'562
9	140	62	47	0'663	67'044	88'5	173'0	4,800	0'582	1'055	4'500+	1'100	0'529	0'958
10	140	85	66	1'272	69'760	92'0	174'5	4,000	0'767	2'11	0'0	1'000	0'618	0'618
11	110	78	45	0'707	71'362	93'0	180'0	4,500	0'702	1'92	0'140−	1'000	0'742	0'702
12	120	60	55	0'692	57'531	85'0	172'0	3,700	0'723	1'95	1'8 +	1'015	0'710	0'699
13	100	68	61	0'717	72'252	92'0	187'0	6,300	0'500	1'34	2'75 +	1'040	1'485	1'430
14	100	62	64	0'764	64'326	90'5	178'0	4,800	0'604	1'70	2'1 +	1'020	0'976	0'955
15	90	58	57	0'603	66'138	89'0	168'5	4,600	0'643	1'72	2'6 +	1'030	0'905	0'879
16	124	70	77	1'155	63'420	85'0	176'75	4,550	0'630	1'59	7'7 +	1'260	1'000	0'794?
17	105	60	75	0'886	64'326	92'5	174'5	4,800	0'603	1'78	6'23 −	1'180	0'931	0'788
18	140	55	50	0'630	71'574	89'5	171'5	4,500	0'695	1'78	7'1 +	1'220	0'809	0'661
19	120	68	55	0'789	63'420	83'0	158'5	4,100	0'699	1'68	11'17 +	1'500	0'853	0'569
20	120	75	70	1'010	61'608	86'0	163'5	4,300	0'573	1'72	3'9 +	1'070	1'015	0'952
21	100	83	58	0'927	63,973	85'5	173'0	3,950	0'730	1'85	7'2 +	1'230	0'740	0'602
22	130	65	70	0'995	73'388	93'5	179'5	5,010	0'636	1'74	0'7 +	1'000	0'904	0'904
23	125	52	50	0'558	62'967	87'5	171'0	4,400	0'648	1'74	2'5 +	1'030	0'888	0'861
24	100	125	91	2'192	?55'266	92'0	172'0	4,700	0'552	1'80	14'23 −	1'74	1'005	0'582
25	110	58	68	0'796	70'215	89'0	173'5	4,300	0'718	1'84	6'71 +	1'20	0'757	0'631
26	90	74	55	0'742	71'574	90'0	177'5	4,820	0'649	1'68	6'05 +	1'17	0'917	0'785
27	130	94	50	1'030	69'762	95'0	180'0	4,800	0'640	1'88	6'24 −	1'18	0'830	0'704
28	110	65	50	0'656	62'061	86'0	174'0	5,200	0'503	1'54	4'41 +	1'095	1'295	1'082
29	120	90	57	1'080	71'564	92'0	175'0	5,600	0'559	1'51	2'07 −	1'02−	1'190	1'160
30	135	60	52	0'754	70'668	93'5	176'5	5,000	0'620	1'75	2'08 −	1'02	0'922	0'904
31	155	65	45	0'700	49'886	85'0	171'0	4,400	0'597	1'79	5'92 −	1'17	0'937	0'800
32	70	75	42	0'507	54'360	83'5	165'0	3,700	0'694	1'88	1'11 +	1'005	0'766	0'761
33	110	72	60	0'872	69'726	89'0	170'5	4,900	0'627	1'62	6'26 +	1'18	0'985	0'835
34	95	50	65	0'610	64'326	93'5	180'0	5,000	0'579	1'74	8'43 −	1'30	0'993	0'764
35	96	70	62	0'817	64'779	90'5	177'5	4,700	0'619	1'74	1'72 −	1'015	0'927	0'914
36	170	67	85	1'420	64'326	92'5	176'5	4,700	0'616	1'82	6'18 −	1'17	0'893	0'763
37	180	68	56	0'982	56'172	85'5	166'5	3,500	0'756	2'09	0'58 −	1'00	0'637	0'637
38	92	65	53	0'632	63'420	90'5	179'0	5,250	0'546	1'56	3'0 −	1'045	1'175	1'122
39	130	68	60	0'894	65'232	93'0	180'5	4,400	0'552	1'96	6'32 −	1'18	0'926	0'785

Case.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(K)	(L)	(M)	(N)	(O)
40	102	63	60	0'734	56'272	85'5	175'0	5,000	0'526	1'46	0'5 −	1'000	1'30	1'300
41	180	90	66	1'530	58'890	90'0	174'5	4,500	0'604	1'80	6'56 −	1'19	0'921	0'774
42	160	85	61	1'260	67'044	88'0	172'0	4,400	0'678	1'76	5'54 +	1'14	0'838	0'735
43	105	58	49	0'560	60'249	86'5	174'0	4,230	0'653	1'77	1'69 +	1'01	0'967	0'858
44	110	85	45	0'771	57'984	87'0	171'0	4,010	0'670	1'89	1'52 −	1'01	0'790	0'780
45	65	77	60	0'713	72'027	98'0	189'5	5,750	0'550	1'67	12'50 −	1'60	1'080	685(4)
46	130	62	57	0'774	65'232	86'5	170'5	4,500	0'650	1'66	6'58 +	1'19	0'930	0'781
47	90	77	60	0'842	66'138	87'5	168'0	4,300	0'733	1'90	5'64 +	1'15	0'719	0'625
48	140	78	56	0'993	61'155	91'0	174'5	5,100	0'548	1'62	6'3 −	1'18	1'130	0'956
49	90	78	50	0'712	63'420	93'0	180'0	4,550	0'637	1'90	8'13 −	1'28	0'827	0'645
50	110	72	75	1'090	65'232	89'5	171'5	5,300	0'522	1'51	0'73 +	1'000	1'270	1'270
51	100	75	60	0'965	60'702	91'0	174'0	4,600	0'604	1'80	6'75 +	1'20	0'922	0'767
52	100	95	47	0'858	68'820	90'5	183'5	4,260	0'714	1'92	2'37 +	1'03	0'730	0'707
53	110	52	47	0'492	66'138	92'5	173'0	5,100	0'580	1'68	4'36 −	1'09	1'025	0'941
54	100	67	54	0'695	55'266	89'0	171'5	4,100	0'632	1'93	8'23 −	1'29	0'820	0'635
55	105	70	49	0'675	58'890	84'5	165'5	3,950	0'690	1'81	3'9 +	1'07	0'801	0'749
56	84	100	80	1'410	64'300	95'5	180'5	5,820	0'498	1'57	12'7 −	1'62	1'280	0'793
57	120	90	71	1'350	52'548	89'5	175'0	4,500	0'557	1'78	11'95 −	1'56	1'010	0'647
58	130	71	63	0'980	67'497	93'0	177'5	5,100	0'580	1'69	4'05 −	1'08	1'005	0'932
59	100	72	55	0'762	63'420	89'5	180'0	5,050	0'568	1'59	1'08 −	1'005	1'110	1'100
60	105	68	57	0'765	64'779	85'5	176'0	4,960	0'567	1'47	7'98 +	1'280	1'160	0'904
61	110	62	48	0'602	59'343	90'0	179'5	3,900	0'701	2'08	6'11 −	1'17	0'685	0'585
62	130	65	55	0'651	64'326	92'0	177'5	4,700	0'616	1'80	5'17 −	1'12	0'903	0'806
63	112	92	93	1'740	68'900	89'5	176'5	5,500	0'602	1'59	4'4 +	1'1	1'040	0'948
64	140	70	64	1'020	65'230	87'0	174'0	4,450	0'658	1'70	5'73 +	1'15	0'896	0'778
65	90	70	62	0'790	62'041	90'0	174'5	4,500	0'665	2'00	3'41 −	1'06	0'719	0'678
66	85	55	60	0'618	57'500	84'5	163'5	3,700	0'722	1'93	2'55 +	1'03	0'718	0'696
67	190	77	65	1'310	73'386	92'0	174'5	5,600	0'569	1'51	3'89 +	1'08	1'170	1'080
68	140	61	55	0'762	46'206	82'0	163'5	3,260	0'700	2'06	4'3 −	1'09	0'694	0'636
69	100	100	53	1'020	56'626	87.0	173'5	3,400	0'777	2'21	3'00 −	1'045	0'583	0'557
70	100	50	50	0'480	52'095	85'5	169'0	4,300	0'577	1'70	4'65 −	1'105	1'040	0'940
71	105	70	60	0'828	58'437	92'5	177'0	5,000	0'537	1'72	12'17 −	1'579	1'090	0'691
72	105	68	40	0'473	?59'700	85'0	172'5	4,600	0'599	1'57	3'05 +	1'020	1'065	1'045
73	110	65	68	0'892	58'890	92'5	176'0	4,650	0'587	1'84	11'70 −	1'540	0'935	0'607
74	80	85	45	0'688	72'933	87'5	182'0	4,800	0'660	1'59	2'48 +	1'03	0'955	0'927
Total	8495	5323	4384	64'445	4675'613	6595'5	12871'75	338,770	46'329	129'135	372'222	85'602	67'918	59'871
Avge.	114'6	71'9	59'2	0'871	63'184	89'13	173'94	4,578	0'626	1'745	5'03	1'157	0'918	0'809

GROUP II.—*Those Rejected for Conditions other than Simple Refractive Errors or Definitely Noted Records as "Temporarily Indisposed at Time of Examination."*

1	110	65	32	0'420	61'155	89'5	176'5	4,600	0'602	1'74	3'35 −	1'050	0'955	0'910
2	65	37	42	0'241	62'967	91'0	171'0	4,000	0'696	2'07	4'53 −	1'100	0'695	0'632
3	130	67	40	0'588	53'001	85'5	169'5	3,350	0'755	2'47	3'70 −	1'070	0'537	0'502
4	100	55	42	0'445	62'514	92'5	181'0	4,700	0'602	1'84	8'08 −	1'280	0'905	0'707
5	90	50	30	0'279	62'514	92'0	176'5	4,100	0'691	2'06	7'48 −	1'250	0'704	0'512
6	80	80	40	0'550	54'807	84'5	165'5	3,100	0'834	2'30	1'00	1'005	0'521	0'520
7	105	50	45	0'442	57'078	92'0	182'5	4,950	0'537	1'71	12'80 −	1'625	1'090	0'672
8	60	55	35	0'287	48'471	87'5	170'0	3,000	0'785	2'55	12'03 −	1'565	0'501	0'320
9	85	58	37	0'381	56'625	92'0	174'0	4,100	0'642	2'07	13'330−	1'670	0'752	0'450
10	120	58	48	0'585	48'471	77'5	161'5	3,100	0'757	1'94	6'321−	1'180	0'681	0'577
11	75	58	39	0'377	55'266	84'0	164'5	3,750	0'686	1'87	1'74 +	1'015	0'780	0'770
12	90	43	35	0'273	48'018	85'0	166'5	4,000	0'586	1'81	7'73 −	1'270	0'945	0'744
13	180	48	45	0'557	50'736	82'5	160'5	3,350	0'742	2'03	0'77 −	1'002	0'665	0'663
14	120	60	47	0'593	63'42	87'0	185'0	3,500	0'825	2'16	3'82 +	1'070	0'560	0'488
15	110	60	45	0'545	58'890	83'5	163'5	3,000	0'905	2'32	5'74 +	1'155	0'545	0'474
16	80	80	27	0'373	64'790	88'0	181'25	4,500	0'695	1'84	3'18 +	1'05	0'782	0'743
17	110	45	42	0'381	67'044	94'0	177'5	3,800	0'821	2'33	6'71 −	1'21	0'524	0'433
18	115	58	47	0'563	69'574	86'5	176'0	4,500	0'682	1'65	10'82 +	1'48	0'888	0'600

19	74	63	41	0'427	60'782	91'0	176'0	3,950	0'702	2'10	6'62 −	1'20	0'679	0'566
20	100	57	48	0'498	60'249	93'0	169'0	4,450	0'620	1'94	9'36 −	1'370	0'832	0'607
21	80	50	55	0'471	58'226	88'0	168'0	4,050	0'665	1'78	3'38 −	1'050	0'845	0'805
22	120	55	45	0'521	63'420	85'5	165'0	3,400	0'849	2'15	6'67 +	1'200	0'550	0'462
23	85	50	53	0'469	68'629	94'5	185'0	5,000	0'605	1'77	6'100−	1'170	6'935	0'800
24	150	50	42	0'494	71'574	91'5	168'5	4,100	0'770	2'04	3'000+	1'045	0'637	0'610
25	95	70	48	0'625	75'198	87'0	176'0	4,200	0'779	1'79	15'625+	1'840	0'718	0'424
26	100	50	40	0'385	64'326	90'0	168'25	4,300	0'674	1'88	1'1 −	1'006	0'790	0'784
27	110	43	49	0'425	70'215	89'5	175'0	4,200	0'735	1'91	5'7 +	1'15	0'714	0'620
28	130	68	55	0'970	70'100	91'0	170'0	3,600	0'852	2'26	2'65 +	1'035	0'514	0'496
29	114	50	37	0'374	46'659	81'5	160'5	3,750	0'613	1'77	2'84 −	1'04	0'922	0'885
30	92	55	40	0'385	48'924	87'5	163'5	3,400	0'700	2'57	11'58 −	1'52	0'557	0'367
31	100	58	43	0'480	62'541	90'5	176'5	3,900	0'730	2'10	4'0 −	1'08	0'645	0'605
32	80	60	37	0'380	67'044	89'5	172'0	3,800	0'785	2'11	2'54 +	1'03	0'604	0'586
Total	3255	1806	1351	14'784	1932'228	2824'5	5496'0	125,500	22'942	64'93	194'296	38'783	22'982	19'234
Avge.	101'7	56'1	42'2	0'462	60'382	88'266	171'75	3,922	0'717	2'029	6'072	1'212	0'718	0'604

GROUP III.—*Those actually found Fit, but about Whom some Special Note appears on Their Record (see Opposite Page).*

1	95	70	50	0'657	56'172	83'0	169'5	4,200	0'791	2'08	4'000+	1'080	0'607	0'562
2	90	56	56	0'574	59'796	91'0	174'0	4,200	0'656	1'97	7'600−	1'260	0'775	0'615
3	120	55	70	0'811	62'514	91'0	175'5	4,100	0'692	2'02	4'9 −	1'110	0'717	0'645
4	120	70	45	0'662	61'608	86'0	169'5	4,900	0'573	1'55	3'9 +	1'08	1'160	1'070
5	130	65	60	0'852	53'454	90'0	175'5	4,000	0'633	2'02	12'0 −	1'56	0'782	0'500
6	90	50	55	0'502	62'514	87'0	172'0	3,900	0'728	1'94	3'01 +	1'045	0'727	0'695
7	140	140	69	2'190	61'155	86'0	173'0	4,000	0'698	1'85	3'85 +	1'07	0'777	0'726
8	80	58	45	0'448	51'642	83'0	162'0	4,400	0'676	1'56	0'61 −	1'000	0'949	0'949
9	90	72	43	0'565	56'831	88'5	174'5	4,300	0'616	1'70	5'67 −	1'15	0'955	0'831
10	110	75	63	0'952	54'813	82'0	168'5	3,450	0'748	1'95	4'3 +	1'09	0'686	0'628

11	115	58	64	0'768	65'685	88'0	174'0	3,840	0'766	2'01	4'18 +	1'09	0'648	0'594
12	90	55	50	0'502	60'702	89'0	174'0	4,000	0'694	1'98	2'8 −	1'04	0'729	0'700
13	90	50	52	0'473	68'856	90'0	194'5	5,250	0'580	1'54	3'41 +	1'05	1'12	1'065
14	85	50	53	0'473	49'377	84'5	164'5	4,050	0'591	1'76	5'57 −	1'14	0'960	0'843
15	95	65	33	0'402	66'591	93'5	182'5	5,500	0'542	1'59	6'10 −	1'170	1'160	1'000
16	110	55	42	0'467	65'685	95'0	183'0	5,200	0'566	1'74	10'32 −	1'43	1'012	0'709
Total	1670	1044	850	11'308	957'395	1407'5	2786'5	69,290	10'550	29'26	82'22	18'365	13'764	12'132
Avge.	104'3	65'3	53'1	0'707	59'833	87'9	174'1	433	0'659	1'829	5'14	1'148	0'86	0'758

Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF
SHAVING-BRUSH INFECTION WITH ANTHRAX.

BY DUNCAN C. L. FITZWILLIAMS, C.M.G., M.D., CH.M., F.R.C.S. EDIN.,
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MEDICAL officers who were at the front will remember a circular which came round, I think in 1917, with reference to the possibility of infection with anthrax by means of shaving brushes supposed to have come from Japan. How many cases were reported at the time I do not know, but it was rather curious to run across one of these cases in the month of May, 1920. The history is as follows:—

E. C., aged 40, bought a new shaving brush at Coventry on April 10th, 1920. He used the brush from the date of purchase. He was admitted to Mount Vernon Hospital for Consumption on the 12th. On the 29th he cut his face and immediately relathered with the brush. On May 1st he complained of a small painful sore on his chin. Dr. Jones, the house surgeon, asked Dr. W. G. Kinton, the superintendent, to have a look at it on account of its curious appearance. Dr. Kinton at once suspected anthrax, and to him is due the credit of immediate diagnosis. The exudate was examined and found to contain large rod-shaped bacilli.

I was then telephoned to come out and operate at once. I found the man with a small sore on the left side of the chin; the centre was black, and it was surrounded by a purply red area, in which two small vesicles were beginning to form. The glands in the submaxillary space were enlarged. The temperature and pulse were not altered, and the man did not appear to be ill. He was given an anæsthetic, and the sore was completely removed with a margin of about half an inch of good tissue. The wound was sewn up and healed by first intention. The man made an excellent recovery, the glands subsiding in a few days. The tissue was sent to the pathologist, who reported that it contained anthrax bacilli.

The medical officer of health of Coventry was communicated with and the name of the shop given at which the brush was bought. The brushes in that batch were examined, and anthrax bacilli were found in several of them; these were destroyed.

A CASE OF ORBITAL CELLULITIS.

BY R. S. MCCLELLAND, M.D. EDIN.

THAT orbital cellulitis is a grave condition cannot be denied, and this is amply confirmed by the very interesting article by Dr. A. L. McMillan, of Glasgow, published in THE LANCET of Oct. 9th. Of the 8 cases he saw in five years 2 died, 1 had the affected eye enucleated, and 3 had total or partial loss of sight; another recovered with ptosis, and 1 is still in hospital. It must therefore be admitted that even when the patient recovers permanent damage of some kind is likely to follow. The rarity of this cellulitis also makes the occurrence of a case worthy of record.

I. E. M., a girl of 3 years, was seen on Nov. 30th, 1919. The right eye was prominent and the child was extremely ill. There was a high temperature, a rapid pulse, great pain around eye, and constipation of a most obstinate nature. The eye "began to swell." To speak accurately, the eyeball was pushed forwards, upwards, and outwards until it looked as if it would be dislocated on to the cheek. The eyelids were forced apart, and could not be approximated. The eye was protected by ointment on lint, and hot fomentations applied day and night. On Dec. 6th I made a wide incision into upper part of swelling, and exposed post-orbital fat which herniated through wound. Three days later I opened below and inwards, and at once a large amount of pus poured out. Later it was noted that pus came from between the lids. The child became very debilitated and pediculi troublesome. For about three months she lived in bandages and an odour of paraffin.

At the present time there is an upward and outward strabismus of the right eye due to limitation of movement. The fundus is normal, but the visual acuity is only 6/36, and a state of monocular vision exists. She is now wearing glasses—a + sphere over the good eye in order to fog the vision of that eye, with a plane glass for the right. The acuity is improving, and there is less squinting than there was ten months ago.

A CASE OF
EPITHELIOMA OF THE PENIS
FOLLOWING INCOMPLETE CIRCUMCISION.

BY C. HAMILTON WHITEFORD, M.R.C.S., L.R.C.P.

I BELIEVE the following case to be a somewhat rare one:—

The patient, aged 56 years, came to the writer with a large ulcerated growth on the dorsum of the glans, which was infiltrated and hard. The inguinal glands on both sides were discrete, very hard, and not tender. A portion of the growth was examined microscopically, the pathologist's report being "undoubted epithelioma." At the age of 20 he had been circumcised for phimosis; the operator, finding a portion of the prepuce to be incorporated with the dorsum of the glans, left this piece of prepuce in situ. The patient then married and begat five children.

Operation.—The operation was performed in two stages. In the first stage the penis was amputated in front of the scrotum. In the second stage, 18 days later, the lymphatics of the suprapubic region and the inguinal and femoral areas on both sides were removed.

Three years have passed without recurrence.

The association of epithelioma with phimosis is well known. The moral of this case appears to be that in those rather exceptional cases in which a portion of prepuce is incorporated with the glans, it is advisable to complete the removal of the prepuce, even when this entails the sacrifice of part of the surface of the glans.

Plymouth.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

EXHIBITION OF CASES.

A MEETING of this section of the Royal Society of Medicine was held on Dec. 10th, Sir ANTHONY BOWLBY, the President, being in the chair.

Mr. F. J. STEWARD showed two cases of

Epithelioma of the Mouth treated by Diathermy.

The first was that of a man, aged 64, who had had an operation for epithelioma of the floor of the mouth two years ago, the glands of the neck on both sides being removed later. Six months ago there was a recurrence of the growth in the mouth. He was admitted to hospital with a large ulcerating mass involving the floor of the mouth and under part of the tongue. His general condition was very poor and he was not considered to be fit for an extensive cutting operation. He was treated by diathermy early in October last. There was remarkably little subsequent disturbance, and the pain, which was very severe before the operation, practically disappeared at once. There was no hæmorrhage during healing.

The second case was one of epithelioma of the soft palate and fauces on the right side and on the cheek on the left side. The patient, a man aged 59, had had a portion of the growth removed which had proved, on section, to be epithelioma. There was a warty superficial growth involving the right half of the soft palate and extending to the pillars of the fauces. A second growth of similar type and of the size of a sixpenny-piece was situated on the inner side of the left cheek. The glands on the right side of the neck were palpable. The great extent of the growths, the marked involvement of the glands, and the poor general condition of the patient precluded a cutting operation. He was treated by diathermy at the end of last May. For a few days subsequently there was some œdema of the cheeks and neck, but this soon subsided. General disturbance and pain were slight. The man's condition was so much improved three months later that he was considered fit enough for an attempt to be made to deal with the enlarged glands. When last seen, in October, the sites of the growths within the mouth were occupied by firm white scar tissue. There was, however, some doubtful thickening about the upper part of the scar in the neck.

Mr. C. MAX PAGE recorded a series of cases of fracture of the carpal bones and showed, amongst others, a case of

Old Fracture of the Scaphoid (Ununited): Osteo-arthritis.

The patient was a man aged 42. In September, 1915, he was shot in the knee and fell on to his left wrist. He was taken prisoner and while in hospital in Germany received no treatment for the wrist injury. In 1916 he was sent to Russia and did general labourer's work there. During this time he was able to use his wrist,

though he constantly had pain in it; he was returned to England in November, 1918, and at that time the condition of his wrist prevented his doing any heavy work. When seen in May, 1919, there was considerable swelling on the radial side of the back of the wrist, limitation of extension and radial deviation, and localised tenderness on the ulnar side of the flexor longus pollicis. X ray examination showed an ununited fracture of the body of the scaphoid and an ununited fracture of the styloid process of the ulna. In October, 1919, a dorsal incision was made, the joint was opened, and the ulnar half of the scaphoid was removed. The wrist was put up in the extended position for two weeks, movement of the fingers being encouraged during this period. After removal of the splint he had a long course of massage. The present condition showed little change from that before the operation, though the patient considered that the wrist was less painful.

Dr. MAURICE CASSIDY showed a case of

? Neoplasm of the Lung.

The patient was a man aged 50. In 1888 he was in Canada for two years working on a railway. Since that date he had been employed as a coal-porter in this country and enjoyed robust health till January, 1920, when he was laid up with influenza, pains in the head, back, and limbs, and fever. He resumed work after two months and found that he was short of breath and had pain in the left side of the chest. Shortly after resuming work he had a slight attack of hæmoptysis ("streaks of blood" for two days). He was admitted to hospital, when there was found to be slight dyspnœa on exertion and a little cough with no expectoration; he complained of pain in the left side of his chest. He was only a few pounds below his normal weight. The physical signs and X ray appearances were as at the present time. The heart's apex was in the sixth space, 6½ in. from the middle line. The second sound was somewhat low pitched and accentuated in the first and second left intercostal spaces, but could not be described as definitely aneurysmal. There was a slight but definite tracheal tug. There were no diastolic shock and no abnormal pulsation. The pupils and pulses were equal. The whole of the front of the left side of the chest was dull, and no breath sounds were audible. Behind there was some impairment of note over the left supraspinous fossa, and breath sounds and vocal fremitus were much diminished all over the left lung. No glandular enlargements were detected and the spleen was not felt. The Wassermann reaction was completely negative on three occasions. There was no eosinophilia. No hydatid fluid had been available for a complement-fixation test. Sir A. Reid reported, after an X ray examination, that the left side of the chest showed a homogeneous mass which included the heart shadow. The heart was obviously displaced to the left, but could not be distinguished from the mass either on the screen or on the plate. The outer edge of the mass was sharply defined, and left an area of clear lung below and external to it. The trachea was pulled over to the left. The sharp outer border did not pulsate. Taking into consideration that the condition had not materially altered for nearly a year malignant growth seemed to be excluded. He suggested that there was present either a hydatid cyst, an encysted pleurisy, or an innocent mediastinal tumour. The patient had been taking 5 gr. of potassium iodide three times a day since May. He had gained in weight, and was now his normal weight. He felt in good health, although still dyspnœic on exertion and subject to pain in the left side of his chest.

Dr. A. HOPE GOSSE said that displacement of the heart to the affected side was possible in neoplasm, and was the case in a recent post-mortem examination which he had seen. Taking into account the early history of some illness accompanied by fever, he suggested that the diagnosis was one of fibrosis of the lung following broncho-pneumonia.—Dr. F. PARKES WEBER asked whether intrathoracic dermoid had been considered.

Mr. PHILIP TURNER showed a case of

Cavernous Nævus of the Foot.

The patient was a woman aged 23 years. Thirteen years ago she first noticed a swelling on the dorsum of the right foot, which had slowly but steadily increased in size. The tumour was painless, but she complained of aching in the sole of the foot after much standing. The swelling, which was most prominent over the dorsal aspect of the tarsal bones, was soft, semi-fluctuating, and did not appear to pulsate; it was not adherent to the skin, but seemed to be connected with the deeper structures of the feet. It could be traced upwards in front of the ankle to the lower third of the leg, where it gradually disappeared; downwards it could be traced over the metatarsals to the toes, all of which were also affected. The tumour increased in size when the foot hung down and diminished, but did not disappear, when the foot was raised. The overlying skin was slightly blue in colour and the tumour was not translucent. The movements of the toes and ankles were not impaired. Both feet showed a slight degree of pes cavus. The diagnosis rested between a nævoid growth, possibly with a certain amount of fatty tissue, and a lymphangioma. In favour of the former was the fact that what appeared to be a dilated vein could be seen in the main mass of the swelling. Owing to the slight character of the symptoms, the slow rate of growth, and the possible connexion with veins in the sole of the foot it was proposed for the present to keep the patient under observation and treat by an elastic bandage.

Mr. A. W. SHEEN showed a case of

Hypopituitarism.

The patient, a man, had increased in weight from 14 to 22 st. within the year, and had become drowsy and lethargic. His sugar tolerance was complete for 250 g. There was loss of sexual feeling and power. The sella turcica appeared normal. A special feature was thickening of the edges of the proximal phalanges of the hands.

Dr. C. W. BUCKLEY showed radiograms of a case of

Osteochondritis Deformans (Perthes's Disease)

in a woman aged 32, who complained of pain in the right hip-joint on walking. Among other changes the head of the right femur was markedly affected.

Dr. F. PARKES WEBER showed a case of

Chronic Jaundice, with Enlargement of the Spleen and Liver.

The patient was a woman aged 23 years, and the jaundice had been noticed since 1917. At about the same time she had complained of dull pain in the right lumbar and hypochondriac regions, which had passed off in a few weeks. In 1919 severe pain had recurred in the same position. In 1918 there had been a good deal of pruritus. The jaundice had persisted from the first, but had varied in intensity. The spleen and liver were considerably enlarged. The urine was highly coloured, contained a little bilirubin, but no excess of urobilin or urobilinogen. The fæces were very pale, but not quite devoid of bile. There was no abnormality in the blood count, and the blood serum was negative to the Wassermann test. The fragility of the red blood cells was normal. Dr. Weber regarded the case as one of hepatic cirrhosis, either of the biliary form or, less probably, associated with Banti's disease. Alcoholism could be definitely excluded, and there was no history of family jaundice.

Dr. WEBER also showed a case of

Acute Anterior Poliomyelitis.

The patient was a woman aged 23, who had been admitted to hospital with a history of having become ill of supposed influenza ten days previously. During the five days before admission she had noticed weakness in the right upper extremity and of some muscles of the right side of the neck and trunk. In the hospital the temperature was at first 100° F., but subsequently did not rise above 99°. There was marked tremulousness on putting out the tongue, and to a lesser extent of the lips when talking, very similar to that met with in cases of epidemic encephalitis. The knee-jerks were active, and the Wassermann reaction was negative. There had been gradual improvement, but paralysis of the right serratus magnus and paresis with considerable wasting of the right deltoid had remained.

Dr. WEBER and Dr. BERNARD MYERS showed a case of

Sclerodactylia of the Hands with Multiple Telangiectases of the Skin and Mucous Membranes.

The patient, a woman aged 65, attended hospital for a painful condition of her fingers and a varicose ulcer of the left leg. She stated that she had always had cold hands from her earliest infancy, and that for about 20 years there had been a sensation of pins and needles in the fingers, the pads of which were painful. The pain was worse in cold weather, and she had been in the habit of obtaining relief by plunging her hands into very hot water. Eight years ago the right forefinger had become white, then blue, and finally black, and had had to be amputated. Painful syncopal and cyanotic states were apt to occur in the other fingers. The feet were not affected. Telangiectases on the face, &c., were first observed eight years ago, and caused no inconvenience except occasional bleeding, especially of the lips and fingers, if the telangiectases were rubbed. A troublesome cough sometimes caused epistaxis. Twenty-four years ago she had been treated for syphilis. An elder sister had a few small telangiectases on her cheeks and inside her mouth, but there was no family history of any similar condition of the fingers. The fingers of each hand had a sort of peeled appearance with a little thickened skin over the flexor surfaces of the terminal phalanges, which were exceedingly tender and painful and a little pigmented. The centres of the nails were very tender. The patient had removed tiny

concretions from her fingers at various times. The telangiectases were widely distributed over the skin and were seen also on the tongue, gums, buccal mucosa, hard palate, nasal mucous membrane, pharynx and larynx. Some were of the spider variety. There was a trace of albumin in the urine and the thyroid gland seemed to be atrophied. Wassermann reaction negative. Mr. Martin Berry reported slight general bony rarefaction and some atrophy of the shafts of the first phalanges of all the toes except the big toes, and general transparency of all the bones of the hands without true atrophy.

SECTION OF SURGERY: SUBSECTION OF ORTHOPÆDICS.

EXHIBITION OF CASES.

A MEETING of this section of the Royal Society of Medicine was held on Dec. 8th, Mr. E. LAMING EVANS, the President, being in the chair.

Mr. P. MAYNARD HEATH showed a case of

Late Birth Palsy

in a boy, aged 12 years. He was born by a breech presentation.

When he first came under observation at the age of 5 years the right arm was quite useless, being rotated inwards and held to the side. The forearm was pronated. After ineffectual attempts to overcome the internal rotation by means of apparatus an open operation was performed and the capsule of the shoulder-joint and the subscapularis muscle were divided. External rotation was at once obtained. There was no record of the electrical reaction of the limb muscles at this period. The boy was lost sight of during the war, but when again seen recently all the limb muscles had recovered and they reacted briskly to faradic stimulation. The limb was very small compared with the sound side, and the shoulder girdle was considerably elevated. The arm could be abducted and rotated out. Movements at the elbow were poor and supination of the forearm was completely lost owing to forward dislocation of the head of the radius. The wrist was held extended and the boy was unable to extend his three inner fingers. If the wrist were passive the fingers could be extended.

Mr. Heath asked for opinions as to whether excision of the head of the radius would improve movements at the elbow-joint.—Mr. H. A. T. FAIRBANK said that movements and exercises were the most hopeful form of treatment. Shoulder cases easily got contractures and an endeavour to counteract one attitude was likely to produce another. He would not advise excision of the head of the radius.

Mr. HEATH also showed a case of

Deformity about the Shoulder-joint

in a girl, aged 16 years. She had always complained of pain and difficulty in raising the right arm. She could abduct the arm to the horizontal position fairly easily, but at this point some obstruction seemed to arise. On making further efforts a sudden movement occurred at the shoulder-joint as if a subluxation were produced, the arm was carried a little forward and could be elevated to the vertical.

On examination the right scapula was found to be a little higher than the left, the trapezius muscle was very poorly developed, and the rhomboideus major muscle stood out as a thick band. No abnormality could be detected in the shoulder-joint. There was slight asymmetry of the face, the right side being the smaller, and there was slight shortening of the right sterno-mastoid muscle. There was a scar in the neck where a tuberculous gland had been removed. The operation was subsequent to the onset of the shoulder trouble. X ray examination of the shoulder-joint in various positions showed no abnormality.

Mr. Heath thought that the condition was probably a congenital defect, as evidenced by the elevation of the scapula and the want of development of the face.—Mr. R. C. ELMSLIE thought the case one of paresis of some of the shoulder muscles, the most obvious being the trapezius. It was not Sprengel's deformity in his opinion. The boy might have had a slight attack of polio-myelitis.—Mr. FAIRBANK agreed with Mr. Elmslie that it was not a case of congenital elevation of the scapula; the scapula was not attached to the spine, but moved round well on movement. He was inclined to think that it was a congenital defect rather than polio-myelitis; he had seen cases with congenital defect of the trapezius.

Mr. P. BERNARD ROTH showed the case of a man whom he had first seen five weeks ago for

Inability to Dorsiflex the Right Wrist

beyond the mid-position. The patient stated that 12 months previously he had fallen off a pile of wood 30 feet high and hurt his wrist; he had not been able to work for two or three months.

The wrist at first had been very painful and swollen. He had been treated for about two months by massage. He returned to work, but did not use his right wrist for another three months. He now did his work, but was apt to knock his fingers during his work. On examination it was found that his chief disability was the limitation of dorsiflexion. X ray examination showed very marked atrophy of the right semilunar bone. Mr. Roth concluded that this was a case of impacted fracture of this bone with subsequent healing and loss of bulk. He had treated the wrist by splinting, gradually bending the splint into the dorsiflexed position. The man could now, after six weeks, dorsiflex his wrist to an angle of 60°.

The PRESIDENT considered the case one of a crush fracture of the semilunar bone, and remarked on the curious absence of arthritis.

Mr. ELMSLIE showed a case of

Charcot's Disease of the Spine

in a man, aged 39, who had come to hospital complaining of a deformity of the spine, which he had noticed for two to three months. In 1917 he first suffered from pain over the lower ribs. He attended a hospital and said that he had been told that he had "general neuritis," the legs being most affected.

On examination the spine showed a severe kyphosis in the lower dorsal and lumbar regions; there was no angular curve and there was comparatively good mobility. The man gave his normal height as 5 ft. 4½ in.; his present height was 5 ft. 1½ in. X ray examination showed extensive changes involving the lower dorsal and all the lumbar vertebræ, the fourth lumbar being the most affected. The condition was characterised by bone destruction and bone proliferation, the latter being most evident along the anterior and lateral margin of the vertebral bodies. It was as if the bodies of the vertebræ had worn away and new bone had been formed around the margins. The radiographer, Dr. Martin Berry, reported that the appearances suggested Charcot's disease of the spine. Re-examination showed that the man had unequal pupils which did not react to light, but reacted to a slight extent to accommodation. The knee-jerks were absent. A Wassermann reaction of the blood was negative; the cerebro-spinal fluid had not yet been examined.

Mr. Elmslie thought that there was no doubt that the man had tabes and Charcot's disease of the spine.

Mr. A. W. SHEEN showed a case of

Fibrous Union of the Femur

in a man aged 30. The history he gave was as follows:—

He had been blown up in the trenches in July, 1916, and sustained simple fracture of the right femur. Treatment was by splint and weights, but there was no union. In October, 1916, the fracture was plated with two plates. In January, 1917, the plates were removed. The operation wounds healed at once. He was on a Thomas's splint and crutches for some time, left hospital in June, 1917, and began to walk without any appliance. He started at his proper work of french-polishing in January, 1918, and had continued it ever since. The limb had been in its present position for three years. He said that he could walk a mile or more without fatigue and he was not anxious for any further treatment. Examination showed that there was a strong fibrous union of the fracture a little below the middle of the right femur. Mobility was marked on lateral but not on antero-posterior movement. The ends were bowed inwards, carrying with them the artery. There was 3 ins. of shortening for which he wore a high boot. Malleolar separation equalled 6½ in. X ray photographs showed much callus, the inward bowing, and, in the lateral view, overlapping, with the upper behind the lower fragment.

Mr. ELMSLIE considered the condition to be one of danger and said that if the man refused operation he should be given an appliance; the responsibility of using it would lie with him.—Mr. ROTH agreed as to the necessity for operation.

Mr. SHEEN also showed a case of

Flail Shoulder

in a man of 37, who was wounded in the right shoulder

in France in May, 1916. The history given was as follows:—

On the day of the wound the head of the humerus was removed. The wound was healed by September, and shortly after a bone graft 4½ in. long was put in from his leg, there being 6 in. of humerus missing. In February, 1917, the upper 2 in. of the graft was removed because it had "gone dead." Two years later he was fitted with the appliance which he now had; he had hardly worn it at all because it was too heavy and stiff and made his fingers numb. On examination the arm hung loosely from the side and could not be actively moved therefrom. The head and adjacent part of the humerus were missing. The graft could be felt curving inwards at the top. Scarring and tissue loss had produced a deep constriction. The deltoid was divided and useless and gave no faradic response; the pectoralis major contracted and moved the shoulder slightly. The elbow could not be bent or extended, but the biceps and triceps reacted easily to faradism and the short head of the biceps was intact. Otherwise the arm below the injury was normal and well nourished, and there was no muscular, vascular, or nervous disturbance. The appliance enabled him to bend the elbow (which could then be fixed by studs) when he brought forwards the opposite shoulder. The man was at work at watch and clock repairing. X ray examination showed that the graft was thinned at the top and reached the lower margin of the glenoid cavity. There was also a piece of metal in the axilla.

Mr. B. WHITCHURCH HOWELL showed a case of

Suture of the Ulnar Nerve

in a girl aged 10 years. Nearly a year ago she had received a severe cut on the right wrist and forearm which had been stitched up.

When seen in April, 1920, she had paralysis of all the muscles supplied by the ulnar nerve below the level of the wrist. The nerve was explored, found divided (a band of fibrous tissue connecting the neuromata), and end-to-end suture was performed with very fine catgut. Four months later there seemed to be some voluntary response in the intrinsic muscles; there was good galvanic but no faradic response. Two months later there was good faradic response in all the ulnar group. A month later (about three weeks ago) there was still some ulnar adduction of the little finger. Sensation and localisation were good over the palmar aspect of the ulnar nerve-supply, but poor, if any, over the dorsal aspect. The hypothenar muscles were strong, and the interossei were becoming firmer.

Mr. T. TWISTINGTON HIGGINS showed a case of

Subluxation of the Right Hip-joint following Trauma

in a boy aged 8 years. In August, 1919, he had fallen from a tree and injured his right hip. Three weeks later he was taken to hospital, where an X ray photograph showed "a dislocation of the head of the femur into the thyroid foramen." The dislocation was reduced under an anæsthetic and the leg put in plaster. Eventually he returned to school, and a few months later a limp developed which became progressively worse.

On examination it was found that the right hip was practically fixed in a position of flexion and slight adduction. There was ½ to ¾ in. real shortening, and prominence and slight elevation of the great trochanter. Radiograms showed the head of the femur subluxed, apparently upwards and backwards, together with some rarefaction and alteration of structure of the femoral neck. The epiphyses appeared well formed. The case was considered to be one of partial subluxation with possible commencing fibrous ankylosis, the result of the original trauma. The treatment suggested was to attempt reduction under an anæsthetic, and, if possible, fixation of the hip in the abducted position in plaster.

The case was thought to be interesting on account of (1) the history, apparently definite, of traumatic dislocation; and (2) the present condition of the hip and the possibilities of treatment.

Mr. FAIRBANK showed a case of

Bilateral Snapping of the Hip with Functional Varus

in a girl aged 11 years. In May, 1920, some creaking was noticed in the right hip when rubbed. Since then the "snapping" gradually developed, and now both hips "snapped." She could produce the snap both when standing and when lying flat.

In order to produce it she put the hip in a position of adduction with a very little flexion; the snap occurred in rotating the thigh in and again rotating it out. When lying flat she got the necessary adduction by tilting the pelvis up on the side on which the snap was to be produced. Palpation during snapping suggested that the phenomenon was produced by the deep tendon of the gluteus maximus slipping over the trochanter, and not by the ilio-tibial band or in the hip-joint itself. It was expected that operation would reveal the presence of a specially well-developed tendon on the deep aspect of the gluteus maximus, as was described by Wood-Jones as being present in these cases. Extension of the hip-joint was somewhat limited on both sides, and abduction was not quite free on the right. Radiograms of the hip-joint were negative. For the last five or six weeks the right foot had turned in. The degree of varus was variable, and she could be induced to correct it voluntarily for a few moments.

Dr. S. A. K. WILSON had seen the case and confirmed the diagnosis of "functional varus." It was proposed to operate on both hips and, if the condition described by Wood-Jones was found, to attach the gluteal tendon to the back of the trochanter.

THE HARVEIAN SOCIETY.

THE FUTURE OF THE POOR-LAW INFIRMARY.

A MEETING of this society was held at the rooms of the Medical Society of London on Dec. 16th, Dr. WILLIAM HILL, the President, being in the chair. The subject under consideration was the Future of the Poor-law Infirmary. The discussion was opened by Dr. C. M. WILSON, who was followed by Dr. CHARLES BUTTAR and Mr. E. W. MORRIS; all three read papers, which appear in the present issue of THE LANCET.

Discussion.

Dr. G. E. HASLIP pointed out that the voluntary hospitals were originally founded for the poor and distressed—a class of patients which had practically ceased to exist owing to Insurance and Workmen's Compensation Acts. At the present time 90 per cent. of operations are performed free of charge; the remaining 10 per cent. of patients are called upon to pay fees out of the reach of the middle classes, because they are paying not only for themselves, but for the other 90 per cent. as well. Again, appointments were originally given to the man who made the lowest tender, which accounted for the unpopularity of the Poor-law medical system. As a member of the Consultative Council he thought it remarkable that 20 men had been able to agree as to the report they issued. He understood that the municipal hospital at Bradford was to be a local hospital only; the voluntary hospital would be able also to take patients from a wider surrounding district. The crux of the matter was the right of entry; the profession must choose whether or not they would give free and open entry to every class of patient; the millionaire should have free treatment with the pauper. Free medicine would not touch the practice of the private practitioner, whereas the poor would get treatment they cannot now obtain. Let the voluntary hospitals be free of local control, with research workers gathered there under an independent committee. The municipal hospital should be supported by the rates, the voluntary hospital by the nation. He personally believed in the general practitioner's clinic; at Hampstead there was one medical man to 800 of the population, in West Ham one to 4000. Medical men must be given opportunities for leisure and post-graduate study now denied to those whose work lay in crowded areas. Part-time service was required in hospitals and clinics; only by linking up the general practitioner, the clinic, the municipal hospital, and the voluntary and teaching hospitals, should we raise the population from C 3 to A 1.

Sir JAMES GALLOWAY said that he had striven to excite the interest of his colleagues in London as to what was happening in other parts of the country. Soon the storm would burst upon them, and they would not be prepared with a policy or with advice for the Government or anyone else. He agreed entirely with the development between St. Mary's Hospital and Paddington Infirmary. Such linking up was the key to the position; unless it was carried out the other alternative would be forced upon medical men. In London difficulty will arise, not out of the development

of municipal hospitals from infirmaries, but out of a further step—the demand for admission to them which will be made through State and other insurance by the working class, the man who earns £3 a week and the man who earns £30 a week together. In addition to the association of hospitals a perfectly open system should be arranged whereby medical service could be supplied to indigent, contributing, and paying patients. Many will take advantage of such a system and many will not; but the medical profession will have its hand forced if action is not taken at once.

Dr. W. W. STOCKER said that at Willesden clinics had sprung up which were eating into the practices of general practitioners, especially those of the new men. He had been for six years chairman of the municipal hospital, 27 years a district medical officer, and 27 years medical officer to the Willesden Voluntary Hospital; for two years the future of the Willesden medical services had been a subject of contention. The Willesden infirmary had dropped the pauper name and had become a real hospital; the medical superintendent now performed major operations, assisted by specialists. The medical officer of health at Willesden had made whole-time appointments to the clinics, but he had now agreed to appoint part-time men also. Willesden had only one-third of the necessary number of beds available. The Labour Party there were opposed to putting heavy new burdens upon the rates.

Dr. R. H. COLE proposed a motion of adjournment of the discussion to a future meeting. The Health Bill, he said, was likely to be revised and brought in again, and medical men ought to discuss fully the questions that had been raised, so that pioneer work could be done and a policy agreed upon. The motion was seconded by Dr. R. DUDFIELD, and after rapid consideration was carried nem. con. The adjourned meeting is to be held on Jan. 27th, 1921.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SURGICAL SECTION.

A MEETING of this section was held on Nov. 26th, with Sir W. I. DE C. WHEELER in the chair. In the absence of Mr. EDWARD TAYLOR, the President, the address which was to have been given by Sir William Wheeler was, by his own desire, taken as read owing to the shortness of time available under the new curfew regulations.

Mr. R. ATKINSON STONEY read a paper on

Modern Surgery of the Elbow.

He showed three cases of excision of the elbow operated on from 10 months to 10 weeks previously for ankylosis following gunshot wound. A fourth case was shown of operation for flail elbow, also the result of gunshot wound. In all cases the result was an arm with good movement of the elbow and fair stability. Owing to the short interval which had elapsed since some of the operations, further considerable improvement might confidently be expected. In all cases the patient was satisfied and greatly pleased with his condition. As the result of the war the surgery of the elbow had retrogressed, he said, by 40 years. Before the war an ankylosed elbow was looked upon as a success, and excision for it was banned. This change of surgical teaching was largely caused by the bad results obtained by excision of the elbow in the early stages of the war, and this again was the result of the employment of the operation in unsuitable cases and by unsuitable men—i.e., primary excision, which is probably never justifiable except as a life-saving or arm-saving device by those who had no experience of this operation in particular or, indeed, of surgery at all. The teaching is now becoming crystallised that excision is unsuitable in the elbow for gunshot wounds and that the ideal result is an ankylosed joint. It would appear that this is largely due to the application of the trade-union principle of reducing the standard to the lowest capacity and of want of individualisation, an attempt to make rules to fit all cases. A good elbow with free movement and moderate stability is possible of attainment in most cases of ankylosed joint, and in some cases of flail elbow. A movable elbow is the ideal, not an ankylosed elbow, as some would have us believe. Therefore each case of ankylosed or flail elbow should be carefully considered with regard to: (1) his present condition and the handicap it causes to his work; (2) the result that might be expected from operation, especially with regard to the relative movement and stability of the new joint; (3) the consequent increase in the man's capacity or usefulness at his own job, or some new occupation. The position should then be fairly explained to the patient, and he should be allowed to decide for or against operation.

The main points in excision were vertical division of the triceps and its insertion into the periosteum and deep fascia of the forearm; limited removal of bone in the forearm; careful suture of wound in layers; drainage; early electrical treatment and massage. The main points in operating for flail elbow are divisions of tissues between bones in a vertical direction from behind until the fibres of the brachialis anticus are reached; adjustment of bone ends which should be united, preferably by several strands of silkworm gut; suture in layers of the tissues behind the bones; no drainage; avoidance of early weight or strain on arm.

Discussion and Reply.

Sir WILLIAM WHEELER said that while individual cases should be treated on their merits, it was his general practice to mobilise ankylosed elbows in officers, and to secure fixation at an open angle in men, especially in the left elbow-joint. A certain degree of lateral mobility was inevitable after resection, and, as a rule, the security of a fixed joint was better for manual work.—Mr. H. STOKES spoke in favour of fixation. He described the original desperate condition of one of Mr. Stoney's patients whom he had seen in France with streptococcal septicæmia.—Mr. ADAMS A. MCCONNELL thought that the interests of the patient should be consulted in every case, and that the question of fixation or mobilisation should be decided by the employment which he wished to follow.—Mr. W. DOOLIN referred to the dangers of lighting up latent infection in wounded joints, particularly that of tetanus. He had been accustomed to use the Kocher incision instead of the vertical.

Mr. STONEY, in reply, said that no rule could be framed for treating lesions of the elbow. Each case should be given the opportunity of the treatment best suited to its requirements. He had never had a case of gunshot injury where tetanus had been lighted up by operation. He used a dilute B.I.P.P. in these cases as a prophylactic against latent sepsis. He preferred vertical incisions, which preserved the fascial insertion of the triceps muscle in the forearm.

MANCHESTER MEDICAL SOCIETY.

A MEETING of this society was held on Dec. 1st at the University of Manchester, Professor R. B. WILD in the chair.

Dr. ALAN MCDOUGALL read a paper on

The Diagnosis of Fits from the Point of View of Treatment.

He said that epilepsy depends upon some brain-state; the mind may be affected by that brain-state, but the source of epilepsy is the brain, not the mind. Hysteria and malingering spring from states of the mind which may be based upon states of the brain, but for the production of hysteria or malingering the mind must be active. If we could set the brain right we could cure epilepsy; if we set the mind right we cure hysteria. Dr. McDougall said that in some people who are familiar with the clinical appearances of epileptic fits, and in people who have epilepsy, hysteria can set up fits that are epileptic in form but hysteric from the point of view of treatment. The important thing in diagnosing fits is the decision as to their origin.

Dr. J. S. Bury, Dr. E. S. Reynolds, Dr. R. S. Hardman, Dr. S. Herbert, Dr. S. Kelly, Dr. R. W. Marsden, Dr. C. H. Melland, Dr. A. Ramsbottom, Dr. A. C. Sturrock, and Dr. J. F. Ward took part in the subsequent discussion.

NORWICH MEDICO-CHIRURGICAL SOCIETY.

A CLINICAL meeting of this society was held on Dec. 7th, Sir HAMILTON BALLANCE, the President, being in the chair.

Clinical Cases.

Dr. V. H. BLAKE (Great Yarmouth) showed a large Adenoma of the Thyroid Gland removed by operation, and a Fibroid of the Uterus removed by subtotal hysterectomy. Dr. Blake also showed a stone removed from the pelvis of the kidney.—In the discussion on this case the PRESIDENT said that he always preferred to remove renal calculi through the pelvis of the kidney, as by that route a cleaner wound resulted and hæmorrhage was avoided.—Dr. BLAKE agreed with this criticism, but found it impossible in his case to reach the pelvis.

Dr. B. K. NUTMAN showed a kidney which had been removed from a woman of 41 containing multiple calculi, crepitation between which could be elicited on abdominal palpation. He commented on the rarity of this condition of crepitation, an opinion with which several other speakers agreed.

Dr. B. MORGAN exhibited a woman with a Sinus in the Loin, through which she had passed a urinary calculus, and gave particulars of the case.

The three kidney cases were discussed by the PRESIDENT and Drs. A. J. CLEVELAND, J. BURFIELD, H. J. M. WYLLYS, A. J. BLAXLAND, and BURTON.

Dr. CLEVELAND showed the brain from a woman, aged 55, with Adeno-carcinoma of the Right Optic Thalamus. The history of the case was as follows. The right breast had been removed in 1911, presumably for cancer. At Christmas, 1918, after a fright, the patient developed sudden numbness of the fingers of the left hand, with loss of power; five months later the left leg became suddenly and similarly affected. In September, 1919, the patient had altered sensation, but no true anæsthesia over the whole of the left half of the face, trunk, and limbs. She could not see properly with the left eye, but there was no real blindness and the optic discs were normal. The fingers of the left hand were hyperextended, and the movements of the hand jerky; there was slight tremor of the head. She walked with a limp, but there were no abnormal reflexes or physical signs. In March, 1920, athetotic movements of the left arm and hand commenced, and in May, 1920, after three days' drowsiness, left hemiplegia developed and she died four days later. At the post mortem a tumour of the right optic thalamus was found, which proved to be an adeno-carcinoma, no doubt a secondary growth to the mammary cancer.

Dr. CLEVELAND also exhibited a heart showing a Patent Interventricular Septum and Infective Endocarditis, and the brain showing Acute Suppurative Meningitis, from the same patient, a boy aged 2 years. The child was taken ill three weeks before death with diarrhœa and vomiting; 12 days later he had a fit. He had always had a cough, but otherwise no illness. On admission to hospital he was irritable, with a temperature ranging from 98° to 103° F.; there was no rigidity of the neck, but Kernig's sign was present. No squint. The lungs were normal, but there was a loud, harsh systolic bruit over the whole of the præcordial area. Death occurred with hyperpyrexia.—The case was discussed by Dr. THEODORE FISHER.

Thyroidectomy in Graves's Disease.

Dr. S. H. LONG brought forward two cases of Exophthalmic Goitre that had been treated by thyroidectomy. The operations had been performed by Mr. Burfield, and the procedure adopted was total extirpation of the gland. While he advocated total extirpation, yet he had to confess that some of the cases developed myxœdema, but in his opinion that could be kept in check by the administration of thyroid tablets.—Mr. J. BURFIELD said that he had operated on six cases altogether by total extirpation, which he thought was the best method, though it was a very formidable operation. He had found that if even a very small portion of the gland was left behind the symptoms returned, and he therefore preferred the more radical procedure. Of his six cases one had died, one was now in an asylum, and the other four had completely recovered.—The PRESIDENT said that he was not in favour of total extirpation, but preferred to remove half the gland, which he found to give satisfactory results.—Dr. WYLLYS questioned the advisability of operation at all, as he was not satisfied that Graves's disease was really due solely to enlargement of the thyroid.—Dr. BLAKE suggested treatment by X rays.—Dr. F. W. BURTON-FANNING believed that rest was most important. He had seen several cases improved by prolonged rest without any operation.—Dr. CLEVELAND expressed himself as sceptical about the efficacy of X rays, and believed in rest and opium. He thought that the advocates of total extirpation would find that after a time they could not control the subsequent myxœdema by administering thyroid gland, so that the last state of the patients might be worse than the first.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.

A MEETING of this society was held at the Miller Hospital, Greenwich, on Dec. 10th, Dr. A. M. CATO in the chair.

Mr. WILLIAM TURNER delivered the Purvis oration, the subject being

Some Surgical Difficulties.

Sudden deaths after successful operations were described as due to embolism and syncope. A child operated on for tuberculous glands, which were completely removed, died of acute tuberculosis. A gangrenous appendix was removed, the patient was anxious not to be moved. He died suddenly, and a clot was found in the left auricle of the heart. Thrombosis of the leg, especially the left, comes on after operation. A seaman had no fewer than five operations for hernia in succession. Inguinal and femoral hernias occurred on both sides and one direct. Each was a fresh hernia, for the operations were successful. It was advisable to look and see in apparently inoperable tumours of the abdomen. The pathologist should be allowed to examine parts of tumours removed. The uterus was removed in one case and it was found that a malignant tumour was commencing in the line of the incision. The rest of the cervix was then removed. A tubal abscess caused intestinal obstruction, which was relieved by operation. A large tumour with cartilaginous exterior was found on incision to be an abscess. A man with obstruction and vomiting, showing swollen stomach, was found to have a simple chronic ulcer adherent to the pancreas.

Dr. PURVIS proposed, and Dr. C. T. T. COMBER seconded, the vote of thanks to Mr. Turner.

Dr. E. P. CUMBERBATCH gave a demonstration of Diathermy.

The P. K. Arm, Ltd., demonstrated artificial arms with a hand that grips.

SOCIÉTÉ DE THÉRAPEUTIQUE DE PARIS.

A New Anæsthetic.

AT a recent meeting of this society Dr. DANIEL BARDE described a New Anæsthetic, diethyl-diallyl-barbiturate of diethylamine, which was prepared by combination of diethylbarbituric acid or veronal and diallylbarbituric acid or dial with diethylamine. Given intravenously it produced a narcosis the duration of which varied from 24 to 48 or even 60 hours. It was suitable for operations in which complete muscular relaxation was not required. It formed a valuable adjuvant of general anæsthesia, as it did away with the stage of excitement and rendered only a very small quantity of anæsthetic necessary. In ordinary doses it was not toxic.

Headaches Requiring Manual Treatment.

Dr. DUREY described a method of treating obstinate headache not due to syphilis, anæmia, or uræmia, by digital pressure followed by vibratory movement and friction of the painful areas. After a period of exacerbation lasting from 8–15 days local improvement occurred.

Treatment of Anæmia and Debility by Nucleinate of Manganese.

Dr. G. LEMOINE (Lille) alluded to the work of Hannon and Pétrequin on the therapeutical action of manganese, both of whom had emphasised its value as a tonic. Pétrequin had even drawn a clinical distinction between chlorosis due to lack of iron and that due to lack of manganese. Dr. Lemoine had employed nucleinate of manganese in cases of anæmia and debility due to acute infections or neurasthenia, and had observed regeneration of the red cells and increase of hæmoglobin following its use.

Splenomegaly following Arsenobenzol.

Dr. A. LÉVY-FRANCKEL recorded two cases of splenomegaly following injection of arsenobenzol in a boy, aged 13, suffering from lupus, and a soldier with psoriasis, in both of whom there was no evidence of syphilis, and the Wassermann reaction was negative. Leukæmia and pseudo-leukæmia could be excluded by examination of the blood, and as the splenomegaly completely subsided primary tuberculosis and carcinoma of the spleen could also be negatived. Dr. Lévy-Franckel therefore concluded that the splenomegaly was due to arsenobenzol, although no previous cases of the kind had been recorded.

HOSPITAL SATURDAY AT ILFRACOMBE.—As a result of the recent Hospital Saturday collections in Ilfracombe the sum of £373 was obtained, being £101 in excess of 1919.

Reviews and Notices of Books.

AMERICAN MEDICAL BIOGRAPHIES.

By HOWARD A. KELLY, M.D., and WALTER L. BURRAGE, M.D. Baltimore: The Norman Remington Co. 1920. Pp. 1320.

THIS volume is a revised edition in one volume of a former work, edited by Dr. Kelly, which appeared in two volumes in 1912, entitled "A Cyclopædia of American Medical Biography." This work ended with the year 1910, and contained 1184 biographies; the present edition ends with the year 1918, and contains 1948 biographies. A biographical dictionary is always interesting, and its interest in great part lies not in the lives of men whose names are household words, but in the record of the humbler workers. In the medical profession, for instance, men like Ephraim McDowell, the Flints, Robley Dunglison, Oliver Wendell Holmes, Nicholas Senn, George Shrady, and many others are known to all, but where, except in a work of this kind, would one learn of such a character as Frederick Dorsey (1774–1858)? He practised in Washington County, Maryland, and was in the habit of doing a daily round of some 60 to 80 miles. He occasionally rode from Baltimore to Hagerstown in a single day with one horse. In 1832 he had cholera, and took on his own prescription over 200 gr. of calomel in 24 hours. Dr. Kelly, who writes his biography, relates how upon one occasion he had to treat a hypochondriac who was convinced that a spider was consuming his vitals. Dorsey, upon being called in, declared the case to be a serious one and proceeded to treat it as follows. The patient was placed in a darkened room with his eyes bandaged; his mouth was propped open with a gag and a bluebottle fly confined by a thread was allowed to buzz across the open mouth, while Dorsey listened attentively and from time to time said, "I see him," or "He is coming." At last the patient tore off the bandage, "and there stood the doctor triumphant with the spider captured in his hand." Charlatanry perhaps, but the patient was permanently cured of his delusion. Another piece of information, unknown to us before reading the dictionary, is that the gardenia, beloved of our gilded youth of the "eighties" for a buttonhole, was named after Alexander Garden, 1728–91, a physician of Scottish descent who practised in Charleston.

We have noted one omission which we much regret—there is no biography of Thomas Holley Chivers. He was not, so far as we know, distinguished as a medical man, but his poems, or perhaps we should say verses, attracted the favourable attention of Poe, and he is besides immortalised in that delightful little book, "The Diversions of the Echo Club." Dr. Kelly and his collaborator have produced a most useful work of reference, which is dedicated, "In Love and Esteem to the Memory of Sir William Osler," although the period with which the book ends just misses the date at which it would have been possible to include a notice of that great physician and exponent of the powers that lie behind universal kindness when it is guided by wisdom and discrimination.

OBSTETRIC PRACTICE.

The Difficulties and Emergencies of Obstetric Practice. Third edition. By COMYNS BERKELEY, M.A., M.D., M.C. Cantab., F.R.C.P. Lond., Obstetric and Gynæcological Surgeon to the Middlesex Hospital, &c.; and VICTOR BONNEY, M.S., M.D., B.Sc. Lond., F.R.C.S. Eng., Assistant Obstetric and Gynæcological Surgeon to the Middlesex Hospital, &c. London: J. and A. Churchill. 1921. With 309 illustrations. Pp. 809. 42s.

THE third edition of this useful book has been thoroughly revised. A new section on the Feeding of Infants has been added from the pen of Dr. H. C. Cameron, and forms an up-to-date guide to the student on this difficult subject, for it includes consideration of breast-feeding, artificial feeding, and the care of the premature child. The necessity for and the means of recognising insufficiency of the breast milk are given with the best methods of dealing with this condition.

The main feature of the work is that almost every possible difficulty or emergency of obstetric practice is mentioned and the appropriate treatment given. With a good deal of the teaching some obstetric teachers will not agree, but the reader will have no doubt as to what the authors deem the appropriate treatment of any given condition. The scope of the work being limited, he will not find much evidence to help him either to contrast the merits of procedures or to form an opinion of his own, but if he is content to accept the authors' statements he will at least not be left in doubt as to what to do in any difficult case. We notice some minor errors and evidence of want of careful revision. In the section dealing with the calculation of the age of the pregnancy from the date of coitus, the student is not warned that in these conditions the average duration is not 280 days. Again, the excellent method of treatment of prolapse of the cord, in which after the cord has been replaced by means of a catheter a Champetier de Ribes bag is introduced with the catheter in situ, is not mentioned. We should like to have had the evidence given for the statement that Cæsarean section offers a better chance for the child than either manual or instrumental preposition in these cases. In the section on venous transfusion, direct blood transfusion or the use of a solution of mucilage is not described. The authors are apparently in favour of the modern variety of three-bladed cephalotribe used practically by all the younger English obstetricians, and yet they figure the operation with the old-fashioned two-bladed instrument. They also figure the entirely obsolete operation of cranioclasm, though they state rightly in the text that at the present day it would be replaced by delivery by Cæsarean section, followed, if necessary, by hysterectomy. We find no mention of gas and oxygen anæsthesia, now so largely used in some clinics, especially in the United States. The book will, however, prove useful to the practitioner if he recognises its limitations.

OPHTHALMOLOGY.

Die biophysikalischen Untersuchungsmethoden der normalen und pathologischen Histologie des lebenden Auges. By Dr. LEONHARD KOEPPE, Ophthalmological Lecturer at the Halle University Eye Clinic. Berlin and Vienna: Urban and Schwarzenberg. 1920. With 32 figures (part of the Handbook of Methods of Biological Investigation, edited by Dr. Emil Abderhalden). M.40.

THE investigation of the minute structure of the living cornea by means of focal illumination, and either monocular or binocular magnifiers, is a subject which has received considerable attention from instrument makers and ophthalmologists, but instruments for the similar investigation of the minute structure of the deeper parts of the eye, and especially of the fundus, are very little known in this country. We have here an account of the instruments and methods which had been invented for both these purposes on the continent up till the outbreak of the war, and the further development on the same lines that has taken place since 1918. It is to the credit of German industry that, so soon after the great débacle, they have been able to advance so far as this book shows on a road which in this country is still largely untrodden.

The fundamental difficulty underlying the microscopic examination of the fundus lies in the fact that before mere magnification can increase the visibility of the object the light focussed upon it must be increased pari passu. This fact sets a limit to the development of the ordinary ophthalmoscope, whether electric or not, and also to any form of binocular instrument. The attainable magnification by older methods is, in fact, about 16 diameters. In 1911 the Swedish ophthalmologist, Gullstrand, invented an apparatus for focussing the rays from a Nernst lamp on to different levels of the eye. By combining this with a binocular corneal microscope an instrument is obtained by which it

is possible to examine the anterior parts of the eye under a magnification of about 60 diameters. In order to adapt it to the examination of the fundus, Koeppe, the author of this book, instead of a Nernst lamp uses a nitrogen lamp with a tungsten film. In order to obtain an image of the fundus he makes use of the same principle which Rayner Batten utilised in his hydrophthalmoscope, which by eliminating the corneal refraction, made the direct method of ophthalmoscopy applicable to cases of high myopia. Instead of a water-bath, Koeppe employs a solid glass in contact with the cocainised cornea, so shaped as to bring the rays from the source of light to the required focus.

The extent of magnification which can be utilised is further limited, it is said, by the physiological fact that the living eye is in a constant state of fine oscillation. The method, however, allows a magnification of about 60 diameters, which is quite enough to demonstrate, for instance, the fibres of the crystalline lens, and applied to the fundus would seem to hold out hopes of extraordinarily interesting results. The apparatus can also be employed with the red-free light as proposed by Vogt, and a further development has been made by Koeppe—namely, an apparatus for polarising the light. By comparing the appearances shown with polarised light on the one hand, and unpolarised on the other, yet further advances are possible in the knowledge of the histology of the living eye. The doubt naturally must occur whether it is safe for the patient to focus such a strong light as is required on to his retina. Koeppe says that it is, for as long as a quarter of an hour, even in the case of myopic eyes, and, of course, if the light is focused strictly in the disc, where there are no sensitive cells, it would be safe to continue the examination much longer. We must confess that in the present state of our knowledge we should prefer that the patients to be experimented on should not be taken from our own clinic.

The subject is one of which we are sure to hear more in the future. These instruments are, of course, very complicated and necessarily very expensive. At present, so far as we know, it is not possible for English ophthalmologists to test them without going abroad. If we may make a suggestion, it would be that some public-spirited member of the Ophthalmological Society or of the Royal Society of Medicine, after satisfying himself as to the safety, from the point of view of the patients, of one of these instruments, should purchase it for his own use and that of his colleagues. This would be a very practical piece of generosity.

SPIRITUALISM AND THE NEW PSYCHOLOGY.

By MILLAIS CULPIN. With an Introduction by Professor LEONARD HILL. London: Edward Arnold. 1920. Pp. xvi.–159. 6*s*.

IN his preface Dr. Culpin tells us that his object in writing this book is "to present an explanation of so-called occult phenomena." He has nothing very new to tell us. His treatment of the subject is like that of the commentators, "who each dark passage shun, and hold their farthing candle to the sun." His book will be useful if it succeeds in turning away any weak souls who may be tempted to seek consolation or enlightenment in the pseudo-religious atmosphere of the séance-room. As popular anti-spiritistic propaganda it may pass; as a serious contribution to the scientific criticism of psychical research it is of little value. The list of books to which the reader is directed for further information is in itself sufficient to show that Dr. Culpin is lacking in discrimination as to what is and what is not good criticism in this field. The only work of any importance to which he refers his readers is Podmore's "Studies in Psychical Research." Such books as Charles Mercier's "Spiritualism and Sir Oliver Lodge" or the story told in "The Road to Endor" are entertaining and instructive, but no one who has any true understanding of the subject imagines that such writings have any real bearing on the problems of psychical research.

The missionary spirit which urges some scientific men to tilt against occultism in all its forms is very apparent in Dr. Culpin's book and also in Professor Hill's introduction. Nothing is more astonishing than the complete abrogation of the canons of reasoning shown by scientists when they are moved to decry the pretensions of spiritualism or the credulity of its supporters. They seem quite unable to approach its "phenomena" with the detachment and the freedom from bias which are requisite in every serious inquiry. The scientist who puts forward such exhibitions of skill in deception as are described in "The Road to Endor," as proof that genuine telepathy never occurs, is guilty of a mode of reasoning which he would not tolerate for a moment in his own work. Dr. Culpin's knowledge of the "new psychology" should have forewarned him that his feeling of need to explain away "so-called occult phenomena" may be a defence-reaction against a "superstition complex" in his own unconscious mind.

Although his work is somewhat marred by "complex thinking"—of which, by the way, he gives a very good description—Dr. Culpin succeeds in presenting to his readers an easily understood account of the well-known relation between mental dissociation and the production of quasi-supernormal phenomena. The greater part of the book consists of chapters on the unconscious, the nature of complexes, the relations of forgetting and repression, dissociation, suggestion, hypnotism, dreams, and hysteria. Unaccountably interposed among these essays in psycho-pathology is a very superficial criticism of water-divining. The later chapters are devoted to mediums and their ways and to the accounts of believers. It is not very clear why Dr. Culpin should have dragged "The New Psychology" into his title or into his exposition. Presumably the new psychology is a psychology which has adopted some of the doctrines of the psycho-analyst; but it cannot be maintained that the conceptions of Freud have, up to the present, shed much light on the problems of psychical research. The psychology that is helpful in this respect is the psychology of dissociation, which we owe mainly to the work of Professor Janet and the hypnotists, and of its applications to spiritistic phenomena Dr. Culpin gives an adequate account. Indeed, it may be thought that he has devoted too much space to the psycho-pathological section of the book, seeing that every important point he makes has been a commonplace of psychical research for the past 20 years. Nor is there any ground for supposing that familiarity with the new psychology justifies the adoption of patronising airs towards men like William Crookes, Frederic Myers, and William James. Our new psychologists, even if they are not so easily led astray as "professors of physics or of the old psychology," may still learn something from these great men. For example, they will find the Radical Empiricism of William James an excellent discipline in their search for objective truth, whether it be in the new psychology or in spiritualism.

PHYSIOLOGY.

Students' Synopsis Series. By FFRANGCON ROBERTS, M.A., M.D., M.R.C.P., Fellow and Lecturer in Physiology, Clare College, Cambridge. London: J. and A. Churchill. With 73 illustrations. 1920. Pp. 398. 15*s*.

Essentials of Physiology. Fourth edition. By F. A. BAINBRIDGE, M.D., D.Sc., F.R.C.P., F.R.S., Professor of Physiology, University of London; and J. ACKWORTH MENZIES, M.A., M.D., Professor of Physiology, University of Durham. London: Longmans, Green, and Co. 1920. With 194 illustrations. Pp. 497. 14*s*.

Dr. Ffrangcon Roberts attempts to describe how the body works, but by the limitation of his avowed aim he somewhat lessens the sphere of the usefulness of his endeavour, for his "Synopsis" is definitely addressed to those who are already acquainted with the elements of the subject and with experiments commonly performed in the elementary class. The physical and chemical processes upon which physiology is so largely based are omitted; histology is only treated incidentally, and the general structure of the central nervous system is not described systematically. The aim of the book is to supplement the larger text-books and

to show the bodily mechanisms by which man triumphs over his environment. The trouble with a work of this description is to distinguish where "elementary" knowledge ends and that of the larger text-books begins. This is just as difficult as to decide where lamb ends and mutton begins, and the subjects treated may appear to different readers to be unequally dealt with.

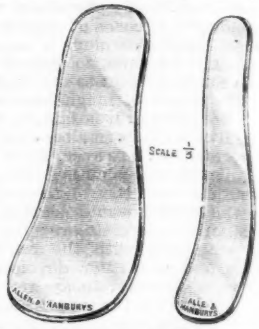
The most valuable chapters seem to us to be those on general and intermediate metabolism (pp. 146–205). The central nervous system and reflex action together take up only 16 pages. The motor functions of the cortex, central mechanisms for speech, and the functions of the cerebrum run to about seven pages. In the ten lines under "the heart sounds" the second sound is said to be caused by the sudden closure of the aortic valve and the first to the contraction of the ventricles and to the closure of the mitral valve. Where do the valves on the right side come in with relation to these sounds? In connexion with the description of Pawlow's researches on salivary secretion the term "conditioned reflexes" might well be introduced on p. 123. While defining enzymes as "catalysts produced by living tissues," destruction of their activities is usually referred to by stating the enzyme is "killed." The excretory function of the large intestine as regards certain salts seems to be omitted. In dealing with beri-beri (p. 212), it is said that this disturbance "occurs in communities where the sole diet consists of maize from which the embryo has been removed in the process of milling." It is more often ascribed to the exclusive use of polished rice, although it may be caused by the same condition in maize. As to internal secretions, which may not be the sole function of an organ, it is stated (p. 229) that "the duodenal epithelium, besides secreting the gastric juice externally, secretes secretin internally." These are assertions that might be more aptly expressed. The following sweeping statements also appear to require a little modification. In speaking of vitamines the author says: "For our knowledge of these substances we are indebted to Hopkins" (p. 211); and again, "For our knowledge of reflex action we are indebted to the researches of Sherrington" (p. 272). The intermittent pains that accompany certain stages of hunger "are due, as Cannon has shown, to periodic contraction of the stomach wall." We were of opinion that it was Carlson, not Cannon, who was the chief exponent of this view. In spite of these and a few other matters, the student will find recent advances lucidly and attractively set forth, for the author has a broad outlook on the more intricate problems of physiology.

The present edition of "Essentials of Physiology" follows so closely on the previous one that the authors consider that no extensive alteration in the text is necessary. The whole book has, however, been revised; the sections on the brain-stem and enzymes have been rewritten and a number of new figures added. But we think there was hardly any necessity to go to Plimmer's "Practical Organic and Bio-chemistry" for Fig. 184, showing a deposit of triple phosphate and ammonium urate in urine. It was originally printed on Plate XIII., Fig. 5, in Otto Funke's "Atlas of Physiological Chemistry," Leipzig, 1853, and reprinted later for the Cavendish Society. Fig. 183, deposit of uric acid (after Funke), also from Plimmer, has the advantage in the original (Plate XII., Fig. 4) of being printed in its proper yellowish colour when seen as a urinary deposit. It would have added to the value of Fig. 191—four photographs of the same person showing the gradual development of acromegaly, from Cushing—to have added to this the X ray photograph of the same person's hand showing the characteristic irregular osseous outgrowths at the tips of the phalanges. The short chapter—less than a page—which forms the end of the text, on subsidiary functions of the reproductive organs, would well bear expansion in the next edition, which, having regard to the uniform excellence, well-selected material, and judiciously balanced treatment of the varied and complex subjects that make up what is called "physiology," will, we feel sure, soon be called for.

New Inventions.

GLASS RETRACTORS.

THE illustration depicts a set of four glass retractors, of the sizes I have found to be most generally useful, for use in place of metal retractors in cerebral work. The principal advantages of glass over metal for this purpose are: — (1) the brain beneath the retractor is kept under observation during the time the instrument is being used, and (2) the blunt edges of the glass retractors are not so liable to inflict injury as the edges of the ordinary metal spatulæ hitherto employed.

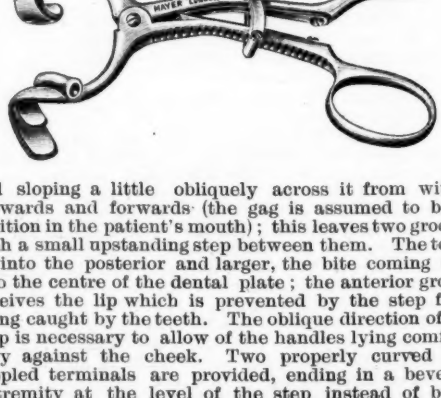


The retractors have been made to my suggestions by Messrs. Allen and Hanburys, Ltd., 48, Wigmore-street, London, W.

PERCY SARGENT,
London, W. M.B., B.C. Cantab., F.R.C.S. Eng.

AN IMPROVED GAG FOR OPERATIONS ON THE UPPER AIR PASSAGES.

DOYEN'S gag, as modified by Probyn-Williams, has the disadvantages that the ratchet may work loose, while there is a difficulty in quickly releasing the gag with one hand, and the dental plates take up valuable space. To obviate these and other drawbacks I have made the gag here illustrated. The handles are furnished with the ring-slide and spring attachment usual with Ferguson's gag, and easily operated by one hand. To facilitate the working it was found necessary to replace the projecting milled-head screw by one flush with the gag. The leads have been considerably cut away behind and in front of a line just anterior to the middle of the dental plate



and sloping a little obliquely across it from within outwards and forwards (the gag is assumed to be in position in the patient's mouth); this leaves two grooves with a small upstanding step between them. The teeth fit into the posterior and larger, the bite coming well into the centre of the dental plate; the anterior groove receives the lip which is prevented by the step from being caught by the teeth. The oblique direction of the step is necessary to allow of the handles lying comfortably against the cheek. Two properly curved and nippled terminals are provided, ending in a bevelled extremity at the level of the step instead of being carried right into the mouth. The perfect self-retaining adjustable gag, suitable in all cases, has yet to be designed, but I think this modification is a step further in the right direction.

Messrs. Mayer and Phelps, 59, New Cavendish-street, London, W., have given great attention to detail in carrying out the making of the instrument.

G. A. H. BARTON,
London, W. M.D. Brux., L.R.C.P. Lond., M.R.C.S.

THE LANCET.

LONDON: SATURDAY, DECEMBER 25, 1920.

A Christmas Thought.

THE LANCET to-day bears the date of Christmas, the day which throughout a great part of the world has been accepted as one in which sins should be forgiven, grievances wiped out, and, as a consequence, resolves be made for peace and goodwill, and old friendships re-knit. It seems to us that Christmas Day of 1920 might well be the date upon which a better understanding than now appears to prevail between the medical profession and the public might be inaugurated or renewed. Not long ago we were heralding the foundation of a Ministry of Health as a Government Department of the first rank in which the interests of the public and of medicine should be absolutely identical, according with their common aspiration to promote and maintain national health. No one suggested that the Ministry should escape criticism, and, further, it was conceived that sundry criticism out of expert knowledge would be forthcoming; but the hope was universally expressed that this Department, at least, would be kept free from the dissensions of party politics. It is now perfectly clear that the reverse has happened, and that the activities of the Ministry are being scrutinized not with the hope of improving the health of the nation, but for party objects. And this has happened at what seems to us to be a truly tragic time. The immediate responsibilities before the Ministry of Health are more extensive and more urgent than it was contemplated that they could possibly be. There never was a time in which medicine, standing for the promotion of general health and well-being, required more sympathetic attention and active assistance from the public than now, and it is just now that the efforts of the Ministry of Health are met, quite frequently and from different political groups, with resistance which, while it has sometimes represented intelligent advice has at other times been little but unintelligent abuse. It is not our province to defend the Ministry of Health (Miscellaneous Provisions) Bill further than to say that it was an attempt to meet urgent and many-sided deficiencies in our national provision for health. We have said what we thought of the measure on several occasions and at several times, and it is not the way in which it was received by Parliament that requires a Christmas revision of spirit. The rejection of the Bill we may receive as reasoned policy, but the zest with which the rebuff to the Ministry of Health was received in many places is what we deeply deplore. For this implies that there has grown up in certain sections of the public a feeling that in some way or other the interests of medicine are not the same as those of the public. The fair words which greeted the creation of the Ministry of Health must be forgotten by those who regard all undertakings of the Ministry as prompted by lust of power or love of meddling, and we should heartily welcome a seasonal alteration of this attitude. Possibly idealism, promoted by a knowledge of the needs, has prompted the Ministry to think too largely, but it does not follow that its foundations ought to be sapped by political prejudice or private animosities. The great week of reconciliation gives a fitting opportunity for thinking out the best way to bring honest public opinion into touch with medical aspirations.

The Hospital Question.

ON Thursday in last week an interesting and important discussion was started at the Harveian Society nominally upon the future of the Poor-law infirmaries, but the topics broached and the arguments adduced in the three introductory addresses went far beyond any such limitation, and the audience came to a prompt decision, after two or three speakers had been heard, that it would be well to adjourn the debate. Accordingly it was decided to postpone further discussion until Thursday, Jan. 28th, 1921, and we hope that many of our readers in the interval will make themselves familiar with the points brought forward by Dr. C. M. WILSON, Dr. CHARLES BUTTAR, and Mr. E. W. MORRIS. The fate of the Ministry of Health (Miscellaneous Provisions) Bill may have been determined from the beginning by the fact that it was an omnibus measure, introduced at an inconvenient time, but the fact remains that the circumstances it was intended to meet were, and are, many of them, urgent, and that the time to consider the evils and their remedies was rendered short largely by the fact that neither the medical profession, the Houses of Parliament, nor the public had given any close heed to the position with which the provisions of the Bill set out to deal. This is a situation which should not recur, and, as far as the medical profession is concerned, the Ministry ought to be placed in possession in the near future of our deliberate views on the most vital medical question—namely, the future of the hospitals. For mercy's sake, let us deliberate and express those views with such unanimity as is possible.

The three addresses delivered before the Harveian Society, and published in THE LANCET this week, have much in common, and the policies indicated for placing hospitals of all sorts in proper relation to each other, so that they may best serve the composite needs of the public while offering the finest opportunities for scientific progress, are similar in aspiration, and to that extent similar in design. The situation to be dealt with—and it is so urgent that all speed is justified if combined with informed precision—is as follows, in skeleton. The voluntary hospitals are overcrowded and their system of obtaining support has not developed with changing circumstances; the administration of the Poor-law infirmaries must change with the supersession of the Poor-law, and it is clear that these institutions must find a place in a linked scheme of hospital service; the rates will bear no new burden that cannot be shown to have later an economical result; the medical profession in any linked scheme must be placed so that their professional work, whether institutional or domiciliary, whether in laboratory or in class-room, can be performed in circumstances that make for fruitful output—and this in the interests of the public. Dr. C. M. WILSON, the first speaker, is the consulting physician to the Paddington Infirmary, holding this post as physician to out-patients at St. Mary's Hospital. His evidence, therefore, on the linking up of the voluntary and the rate-supported institutions is of a first-hand character, while he has

personal knowledge of the way and mood in which Bradford has dealt with one great issue. Bradford has decided to turn its Poor-law infirmary into a municipal hospital, as all our readers know, and Dr. WILSON states impressively that, in his opinion, this means the decadence of the great voluntary institution in that city. He gives his reasons for mistrusting the State hospital as the predominant partner, and endorses the policy in the Dawson Report, whereby such Poor-law infirmaries as cannot develop into or are not needed as Secondary Health Centres—of which the teaching hospitals are taken as the model—should be Primary Centres, largely staffed by the general practitioners and based on the great voluntary institutions. Dr. CHARLES BUTTAR, an influential member of the British Medical Association and honorary secretary of the Federation of Medical and Allied Societies, will be found more in agreement with this policy than an easy reading of his essay would promise, while his advice is given after a just résumé of the existing problems. Objecting to the transfer to the Bradford City Council of the Bradford Poor-law Infirmary on the unassailable ground that medical approval of the procedure was never obtained, he sketches an admirable plan for the conduct of a rate-supported infirmary when transformed into a general hospital. But such an institution as he depicts, where rigorous care is shown to maintain professional independence, where the general practitioner is included in the clinical activities, and where a close connexion is maintained through the medical staff with the voluntary hospitals, would strongly resemble what Dr. WILSON desires, and would realise the ideal of a large Primary Centre, as described in the Dawson Report.

Mr. E. W. MORRIS, the indefatigable House Governor of the London Hospital, is more doubtful as to the future of the voluntary system than either Dr. BUTTAR or Dr. WILSON. But his address must arouse wide sympathy. For its ruling note is that, in the new order of hospital administration, which he finds inevitable, patients of all classes shall receive similar and the best attention, and hospitals of all classes shall be graded up to the same and the best standard. The financial burden he casts on the State, the rates, and the individual patients. Councils of Medical Service, composed of laymen and doctors, men and women, are to have the responsibility in each locality of apportioning the money and supervising its expenditure. His proposal is a financial working out, to some extent, of the plan laid down in the Dawson Report for raising the standard of the infirmaries, and linking them as Primary Centres with the voluntary teaching hospitals; but Mr. MORRIS proposes that the money raised by voluntary subscriptions should be used only for research and education. It is mainly the former that he has in his mind, for he elsewhere postulates that medical education is a national service worthy of subsidy from the national purse; and we find him sanguine, for he is too experienced a figure in the charitable world not to know that the needs of research will never have the compelling appeal for the public that the misery of the sick possesses. There is not one among us, medical or lay, who does not find the plea of illness more vocal, because more personal, than the claims of science, however just. It is absolutely illogical to give a guinea to alleviate an ill that has arrived, refusing a guinea to those who may prevent a thousand such ills from arriving, but the world is not run on logic. The important conference of the medical staffs of the voluntary hospitals, convened by the British Medical Association, which was opened last Tuesday at the Royal Society of Medicine, under the chairmanship of Sir JAMES GALLOWAY, registered its opinion at the start of proceedings as to the value of the voluntary hospitals, and that opinion does not reflect Mr. MORRIS'S fears. In a meeting of upwards of 150 representatives of hospital staffs there were found only four dissentients to a motion which recorded "belief that the voluntary method of administration is to the advantage of the public, of medical science, and the medical profession."

Medicine and Criminality.

TWO men sentenced to death last week at Lewes Assizes by Mr. Justice AVORY were recommended to mercy by the jury on the ground that the murder committed by them was unpremediated. But even regarded as the impulse of the moment the crime seems to have been so inhuman and futile as to be inexplicable were it not for the rapid demoralisation well known to result from lack of occupation in those who have never learned to employ their leisure time. For medicine the chief interest lies not in unravelling the threads of circumstantial evidence needful to disclose the authorship and immediate motive of the murder, but in tracing the springs of criminal conduct to their source. The achievement of the lamented Dr. CHARLES GORING made it clear that criminology is a proper object of study for the medical man and one for which his training and powers should peculiarly fit him. Dr. GORING set out from the data available in prison records to found a new knowledge of the criminal upon facts and inferences dealt with in accordance with scientific method. He was able to confirm by mortality figures the prevailing impression that there is a high degree of association between crime and insanity, and his studies led him to assume the existence of a criminal diathesis and to regard crime as little, if at all, the product of social inequality or adverse environment. Dr. GORING, in examining the men convicted of murder at Eastbourne, would have looked for the antecedent of criminal conduct in defective physique and mental capacity, and in the possession of wilful antisocial proclivities; he would not have regarded the discharge of two men from military service to an aimless manner of life as more than an opportunity offered to them for manifesting their inborn criminal tendencies. The question of the relative share of nature and nurture in production of criminal conduct is answered very differently by Sir BRYAN DONKIN, lately one of the Prison Commissioners, who in his recent lectures[1] at the Maudsley Hospital throws doubt on the very existence of a science of criminology at all, and regards criminal conduct as dependent, indeed, on the innate capacities of each individual, but on these capacities as developed and actuated by innumerable influences acting upon them—in a word, by environment.

If this is so, the careful study of the individual offender becomes the all-important matter; statistical method has not yet marked out the right lines for penal reform—perhaps it may never do so—medicine must step in with its genius for individual diagnosis and for determining the relative importance of causes. The report of the Prison

[1] THE LANCET, Nov. 13th, p. 983.

Commissioners, of which we print on p. 1323 a summary of those portions dealing with health matters, suggests a wide field for medical endeavour. The office of prison doctor may be variously construed. He may regard his task simply as that of keeping the prisoner sufficiently fit to undergo his punishment. On the other hand, his statutory duties are widely defined to include a supervision of the sanitary arrangements, ventilation, and water-supply of prisons, and of the food, clothing, and bedding of prisoners; he orders their special tasks and certifies fitness for special punishment; he recommends removal when necessary to an asylum or for hospital treatment outside the prison walls, a practice much commoner in Scotland than in England. Testing for mental defect rests in the hands of the prison doctor and systematic examination for this purpose is difficult and lengthy. The Leeds prison doctor stated last year that there are more mental defectives in prison than appear at first sight; and their condition is deserving of pity, for when, as is often the case, they are not strong enough for out-door work, their disability confines them to the complete isolation of a cell for the whole period of sentence. The tuberculous prisoner is also condemned to a similar fate. Statistically the health of prisoners is good; isolation and discipline naturally make the control of infectious disease a relatively simple matter. But the prison doctor, except at Holloway, has no fully-trained male or female nurses at his disposal for the care of serious illness; six months of training in a prison hospital is considered sufficient to qualify the nurse for duty, and the concession, granted last year, of three months' additional training in an outside hospital seems to have been allowed to lapse. But within the limits now set to his activity, there is much for the prison doctor to do in keeping up the standard of hygiene, and more in devising conditions of greater efficiency.

There is, happily, a growing feeling in the community that it would be alike more scientific, efficacious, and humane to devise treatment for the criminal rather than mere punishment by imprisonment. Obviously, as Dr. A. R. ABELSON pointed out[2] not long ago to the Child Study Society, the best thing would be to begin early and make a radical change in our ideas and methods of dealing with the rising generation. Dr. W. A. POTTS'S experience in Birmingham has impressed him with the early age at which criminal propensities appeared in the children brought before the local court, and there is no reason to believe that Birmingham is unique in this respect. On this view the prison doctor is dealing only with the final and maybe incurable stage of a chronic disease. But, as in other branches of medicine, it is from study of pathology and of well-established disease that the clue is to be found to early preventive treatment and ultimately to prevention itself. And what we need in the meantime is a broad conception of a prison, or shall we say penal, medical service. As resident medical officer at Birmingham Prison, Dr. M. HAMBLIN SMITH has found ample scope for diagnostic ability in reporting on the mental state of cases referred to him by the justices. The work is not unattractive in itself and might well engage the attention of men and women entering the medical profession who desire to use their social gifts in the service of their fellows.

[2] THE LANCET, Oct. 30th, p. 931.

Annotations.

"Ne quid nimis."

THE TOXICITY OF SALVARSAN.

A FORM of toxic jaundice has been noted from time to time in patients under treatment with salvarsan or its substitutes, and during 1917 in certain military hospitals there occurred definite outbreaks or epidemics of this condition with a high mortality rate. The Salvarsan Committee of the Medical Research Council undertook to inquire into these regrettable accidents, and in a recent Green-book—Special Report Series, No. 55—are published the results of researches designed to test the possible explanation of the salvarsan deaths. Although there was nothing to show that the batches of salvarsan used in the fatal cases were themselves unduly poisonous, direct action of the arsenical preparations upon the tissues of the body could not be excluded. On the other hand, it had been suggested either that the salvarsan rendered the body, and especially the liver, vulnerable to microbic infection, or that the presence of an infection produced in the body an unusual intolerance to the drug. The importance of a thorough histological investigation of tissues obtained at the autopsies on fatal cases became obvious. This was undertaken by Professor Hubert M. Turnbull, and the first part of this publication consists of his report on the examination of tissues from eight cases. The number of cases is small, but the lesions found are similar, and though Professor Turnbull is rightly cautious in analysing his material, it is possible to arrive at provisional conclusions. The chief lesion was a severe destruction of the liver, and this was associated with advanced fatty degeneration of the kidneys, fatty degeneration of the myocardium, and slight splenitis. There was no evidence of any microbic infection, apart from post-mortem invasion, but, on the other hand, the lesions resemble closely those acknowledged as being due to exogenous poisons such as trinitrotoluene. The second part of the report is written by Dr. E. W. Ainley Walker, who approaches the problem from a different point of view. He determined the immunisation response in rabbits to known doses of killed bacteria, using as his criterion of immunity the agglutinating power of the blood serum, and observed the variation in the agglutinin response when the animals were treated with salvarsan before, during, or after immunisation. He found that the administration of salvarsan does not prevent the formation of agglutinins, but rather the reverse, for it commonly induces a renewed activity in the immunity response at a time when this would normally be diminishing. It is, of course, impossible to generalise from the behaviour of a single factor in the immunity response, but Dr. Ainley Walker's results are suggestive. As far as they go they indicate that an infective process may be ruled out as an explanation of salvarsan deaths, and they are thus in agreement with Professor Turnbull's conclusions. The sole factor would seem to be the toxicity of the arsenical preparation, but the whole matter is obscure and clearly demands much further research.

"INFLUENZA" FROM SHEEP.

THERE is an interesting account of an epidemic of so-called "influenza" in the *Journal of the Royal Army Medical Corps* for December. The epidemic raged at Lahore in the Punjab in the end of 1919, amongst the 111th Madras Labour Corps, the men of the cattle depôt, and the 14th (Madras) Labour Corps. The epidemic appeared clinically to be a recrudescence of the influenza which had occurred in 1918, but this time there was no notable outbreak anywhere else in the Punjab, or, indeed, in the whole of India; further, it was confined entirely to units in the north end of Lahore cantonment. The cases were numerous and mortality very high. The outbreak began gradually in the end of September, when the dry season commenced,

and by Nov. 27th there had been 754 cases and 230 deaths (31 per cent.). The symptoms were influenzal, broncho-pneumonia was frequent, and the sputum contained pneumococci, diplococci catarrhales, staphylococci, streptococci, &c., but the influenza bacillus was never found. On Nov. 19th 196 deaths having already occurred, the reporter, Major J. Mackenzie, R.A.M.C., who appears to have been the local pathologist, and who admits that the source of the infection had hitherto baffled him, happened to visit the cattle depôt, where he heard of a mysterious unknown malady which was killing 100 sheep a day. He went to see the sick sheep, and found that as they died several ounces of fluid escaped from their mouths and nostrils and lay in little pools on the ground. He made two examinations of dead sheep, found they had broncho-pneumonia and pleurisy, recovered pneumococci in pure culture from their lungs, also from their heart blood. The flock of sheep was at once removed to a distance and dead sheep burned. Two post-mortems on patients dead of "influenza" showed pneumonia and pleurisy (one had purulent pericarditis). In all the films and cultures pneumococci only were present, and pneumococci were also found in blood films taken from fingers of seriously ill patients. The epidemic attacked the men of the cattle depôt, also the 114th Labour Corps, whose camp was separated from the cattle depôt only by a road; also the 14th Labour Corps a fortnight after it had sent 50 men to work in the cattle depôt. The disease was supposed to spread among the sheep by contact, but to have been carried to men by dust (it spread to them immediately after the commencement of the dry season in the end of September), by flies or by contact, and from man to man by coughing or sneezing. It seems surprising that so great a loss of sheep should not have been talked about, and the moral would seem to be that any such mortality among animals should be reported to the medical authorities, particularly the army medical authorities in all garrisons, in case action on their part should be necessary.

A FRENCH CONCEPTION OF SOCIAL MEDICINE.

IN no department of human life is the modern trend towards collectivism as opposed to individualism more marked than in medicine. It has become increasingly evident that so long as medical science concerns itself exclusively with individuals little progress can be made towards the betterment of the race; but that with the advent of new ideals and new conceptions the whole type of legislation is changing, and a new horizon opening up before the medical profession. Preventive medicine, as we now understand the term, is practically a modern conception; industrial medicine, as the logical outcome of the health supervision of infants and school children which is now practised to some extent in most civilised countries, is essentially a twentieth century development. Twenty years ago, as Professor E. L. Collis has pointed out, public health medicine was practically confined to questions of sanitation, the compilation of vital statistics, regulations for healthy housing, and for the notification and isolation of specified diseases. The old medicine concerned itself with disease; the new envisages prophylaxis, social therapeutics, and education—and the greatest of these is education. We have travelled a long way since Wesley wrote—

> "Not all the gay pageants that breathe
> Can with a dead body compare."

We are concentrating on life rather than on death, on health rather than on disease; but the problem of the safeguarding of the race is being tackled none too soon. In an address delivered at the opening session of the medical school at Angers in November, and published in the first number of a new French monthly journal, *L'Evolution Médico-Chirurgicale*, Mons. Henri Borromée, préfet of the department of Maine-et-Loire, discourses on this new social medicine, pointing out the urgency of the "problem of the race" which awaits solution, and drawing attention to the fact that in France every six minutes a man dies from tuberculosis, and that every year 90,000 children under 12 months of age die, mostly from preventable causes. The solution, as he sees it, lies in the natural evolution of the art of medicine towards prophylaxis, the tendency being more and more for the doctor to double the parts of physician and hygienist, while the interests of the individual patient must be subordinated to those of society as a whole. To Mons. Borromée the most important element in the health policy of the modern doctor lies in the direction of education; in the teaching of puericulture; in the multiplication of schools for mothers; in teaching the public generally how to avoid and how to treat tuberculosis, how to avoid and how to cure venereal disease; and in inculcating cleanliness of person, home, and streets. In his opinion this propaganda work is of primary and outstanding importance, in its absence no other measures being of any lasting value. The latter part of Mons. Borromée's address is taken up with a consideration of the relations between the doctor and the State official, which he hints have not been too cordial in the past. He sketches in broad outline a health programme dealing with questions of housing and of active warfare against the three great social evils of alcoholism, tuberculosis, and venereal disease, in all of which the medical practitioner in friendly coöperation with local authorities may find ample scope for all his skill and energy.

CHYLOUS EFFUSION INTO THE PLEURAL AND PERITONEAL CAVITIES.

IN the *Albany Medical Annals* for October Dr. H. C. Gordonier has reported a case of a very rare condition—chylous effusion into the pleural and peritoneal cavities.

An Armenian, aged 32 years, was admitted to hospital on Dec. 9th, 1917, complaining of swelling of the limbs and abdomen, pain in the back, and shortness of breath. His illness began six months previously with swelling and puffiness of the face, which was soon followed by swelling of the legs and frequency of micturition. There was no history of syphilis. On examination he was fairly nourished, but there was pallor of skin and mucous membranes. Though semi-recumbent he had dyspnœa, but not cyanosis. The eyelids and face were puffy and there was soft œdema of the lower part of the trunk and lower limbs. The abdomen was large and protuberant. The chest was voluminous and gave a vesiculo-tympanitic note. Below the angles of the scapulæ there was dullness, the respiratory murmur was feeble, and numerous fine subcrepitant râles were heard. The heart's impulse was not visible or palpable and the cardiac dullness was almost effaced by a super-resonant note. The sounds were clear but distant. The pulse was 90. The abdomen contained free fluid. The urine contained a distinct amount of albumin and many fine and coarse granular casts. Blood examination showed: red cells, 4,792,000; white, 9160; hæmoglobin, 80 per cent. A differential count yielded: polymorphonuclears, 48 per cent.; small lymphocytes, 40; large, 8; transitionals, 2; eosinophiles, 2. The Wassermann reaction was plus 2. For the dyspnœa paracentesis abdominis was performed. Two litres of an alkaline milky fluid were obtained, which on standing yielded a creamy layer of fat. On centrifuging many fine, free, fat granules, mononuclear and endothelial cells, and a few polynuclear neutrophiles were seen. Cultures were negative. The ascites rapidly recurred and repeated paracentesis was necessary. Half a litre of similar fluid was aspirated from each pleural cavity. On several occasions blood was taken at midnight and examined for filariæ without result. He left hospital on June 9th, 1918, greatly improved, with no signs of pleural effusion and only a little fluid in the abdomen. When re-examined on June 10th, 1920, he was robust and there was no evidence of fluid in any serous cavity, but there was a trace of albumin in the urine.

The case is interesting because of the presence of chylous effusion in the peritoneal and pleural spaces, without evidence of new growth, enlargement of lymphatic glands, venous thrombosis, filariæ or other sign of lymphatic obstruction. The Wassermann reaction and the nephritis seemed to point to syphilis as the cause and to a lesion of the thoracic duct, which is exceedingly rare. In 1897 Rotmann published a paper on milk-like effusions into serous sacs. He was able to collect 155 cases, including one of his own. He classified the causes as trauma, tuberculosis, syphilis, malignant disease, filariasis, thrombosis of the left subclavian vein, disease of the liver, and syphilis. Of the cases in which the effusion was confined to the

peritoneal cavity, 17 were due to compression of the thoracic duct by enlarged glands or neoplasms, 9 to non-tuberculous peritonitis, 6 to occlusion of the left subclavian vein, 5 to pressure from strain or cough, 5 to peritoneal carcinoma, 3 to filariasis, 3 to occlusion of the thoracic duct, 3 to occlusion in lymphatic glands, 3 to occlusion of lymph vessels, 2 to external pressure, 2 to malignant lymphoma, 2 to disease of the liver, 2 to syphilis, 1 to angioma of the lymphatics, and 1 to calculus in the receptaculum chyli.

AN AMERICAN VIEW OF SEX-GLAND IMPLANTATION.

WE have recently on several occasions directed our readers' attention to the question of sex-gland implantation, more especially to the results of European observers. We now refer to some observations by an American surgeon, G. Frank Lydston, of the University of Illinois, and published in his book, "Impotence and Sterility and Sex-gland Implantation," and bearing imprint the Riverton Press, Chicago, 1917, but which has only just reached us. The author began his observations in 1914 and was 56 years of age at that time. Amongst other matters he was desirous of investigating the action of the sex hormones, and of testing the practicability of experimental sex-gland implantation, and of employing the procedure in the treatment of dementia præcox. He endeavoured to find the requisite material, but alas! "the double problem of securing human sex-glands under proper conditions and of having a complaisant subject ready and waiting, for the experiment seemed insoluble, until the plan of combining surgeon and subject suggested itself and the author resolved to perform the experiment upon his own person." In the author's haste to secure the necessary material, the appliances necessary to secure blood for the Wassermann test were forgotten, but in January, 1914, the testes were removed "as aseptically as possible" from a suicide by gunshot, and placed in a jar of sterile normal salt solution, and seven hours after securing the necessary material, and 24 hours after the death of the subject from whom it was removed, "the author implanted in his own scrotal sac one of the experimental testes." On his own statement the conditions, so far as asepsis was concerned, were not those of an up-to-date operating-room, as the heroic auto-implantation was carried out with the aid of his assistant in his "office," without the usual corps of nurses; but they were as satisfactory as was possible in the circumstances. A fistula formed, and about half of the gland, which had already formed vascular connexions, was removed. The "nodule," representing the remains of the implanted testis, gradually decreased in size until at the end of 18 months it could barely be felt. As to the "physiologic effects," after excluding the psychic element, the results to us do not seem either convincing or satisfactory, but the author was satisfied and noted a distinctly perceptible change in his blood-vessels—a moderate varicose condition of the veins of the legs and arms markedly improved, the walls of the temporal arteries became softer, and certain changes in the heart's action occurred, with reduced blood pressure. Improvement in vision and in circulation in the skin are recorded, as well as the disappearance of marked keratosis of the soles of the feet, this being an affair of 15 years' standing. Other cases are recorded, including transplantation of an ovary from a subject 23 hours after death into a woman aged 59 suffering from "nerve wreckage," and grafting of a testis in a senile dement of 60 years. No "physiologic observations" were made, and neither mental nor physical improvement followed. Using material that had been refrigerated from three to seven days the author performed operations in both sexes, comprising two females and eight males suffering from various conditions, three senile dements, two cases of dementia præcox, two of epilepsy, and three of general paresis. In this group the implantations failed in all of the males and in one of the females. The results of these early cases were far from encouraging. Reports of six additional cases, some of double testicular implantation, of successful implantation, beginning in 1915, are recorded, and, without going into details, the results obtained "confirm the author's belief that in the sex-gland hormone we have the most powerful cell stimulant, nutrient, and regenerator at present available to medical science." The ages of the patients—all males—varied from 19 to 69.

The author is convinced that his method of sex-gland implantation stands on firm ground as a valuable therapeutic resource—notably as increasing physical efficiency and especially "physio-sexual efficiency." But that is not all. Nothing is lost by ordinary refrigeration of the material for 24 to 48 hours, and glands taken from the healthy dead body at any time prior to the beginning of decomposition are of therapeutic value equal to that of those taken in vivo, and the benefits of implantation probably accrue irrespective of the site of the implantation, but the vicinity of the peritoneum (extra-abdominal) in the female and of the tunica vaginalis in the male are the sites of selection. Moreover, "any chronic disease in which improvement of nutrition is a desideratum should be benefited by sex-gland implantation." Senility may be retarded, longevity possibly increased, and climacteric possibly postponed by it. Its early use should be the logical remedy for dementia præcox. Other vistas open up; the procedure may be useful in treatment of impotence in the male, possibly in sterility in both sexes—aberrant psychical or physical sex development, intractable neurasthenia, chronic diseases of the skin, arterio-sclerosis and even senile dementia, and such diseases as chronic nephritis and diabetes would seem to be indications for implantation. Such is Dr. Lydston's view, and so great are the possible, probable, and prospective advantages of sex-gland implantation, in his opinion, that he desires the public to understand that the sacrifice of the thyroid or of a single ovary or testis by a living subject is not disastrous. Indeed, the author in his enthusiasm for his panacea for human ills believes that there are times when tissues obtained by such a sacrifice will restore reason, perhaps even life. "Why (he asks) should there be a waste of material which, if properly used, possibly might add so much to the health, happiness, efficiency, and even to the longevity of the human race? Let us strive for the conservation of biologic energy." As the author's results were published in 1917 we look forward to the publication of subsequent experiments which may enable him to substantiate his position.

ABSENCE OF THE CEREBELLUM.

THE cerebellum is occasionally found in a more or less atrophic condition. This may be in the form of hemi-atrophy, as, for instance, is seen with contra-lateral cerebral lesions, or it may be more general, evidently due, in certain cases, to some mechanical cause. Dr. Dorothy Priestley records in this number of THE LANCET a case in which the conditions found in a child a few months old seem to justify its exclusion from the class of atrophies, pointing rather to the state being one of complete absence from failure of development. If this surmise is correct the case is probably unique. Shuttleworth's case, reported by Ferrier, was really one of extreme atrophy or maldevelopment, affecting the left side especially, with exceedingly poor representation of the pons and peduncles. The girl was able to walk well, but apparently had never been observed to run. In Dr. D. Priestley's case the age and condition of the child precluded any observations on the functional state during life. The condition in this specimen would not seem to be a concomitant consequence of hydrocephalus, but is rather a primary failure of development, the fluid collection and the brain deficiency being results of the same embryonic fault. The cerebellum forms slowly from the alar laminæ of the neural tube, but it begins fairly early, before the end of the first month. Not much is known certainly about the detailed development of the pons, but it is justifiable to assume that the transverse fibres, at any rate, could not form if the cerebellum failed to develop.

Such failure affects the alar laminæ and roof-plate, and it seems possible to correlate the hydrocephalus with some failure in the choroid plexus system, which also has to do with the roof-plate; this would be in keeping with the presence of pyramidal fibres, indicating certain cerebral development, and the existence of spina bifida at the lumbo-sacral level. Speculations of this sort, however, serve little useful purpose, and it is much to be hoped, from many points of view, that this most interesting specimen will be subjected to a thorough and detailed examination of all the regions concerned in cerebellar development and connexions.

BILATERAL DUPLICATION OF THE URETERS.

Dr. Henry O. Mertz,[1] of Indianopolis, has made a compilation of 77 recorded cases of bilateral duplication of the ureters, dividing the cases into four types. In the first type, which is the commonest, comprising as it does 40 cases, bilateral duplication is complete on both sides. Unless the bladder is extensively inflamed, as in tuberculous cystitis, in which case a meatus may be missed, the chances of failing to identify the condition is not great owing to the present perfection of the cystoscope. In the second type, of which there are 11 cases, bilateral duplication is complete, but one ureter has an ectopic orifice, as, for instance, in the posterior urethra, or ends blindly in the bladder wall. Although detection of this type has previously been difficult, the close-vision cysto-urethroscope will enable the ureteral orifice near the colliculus to be identified. In the third type, of which Dr. Mertz has collected 11 cases, bilateral duplication is partial on each side; and in the fourth type, which is represented by 15 cases, the duplication is partial on one side and complete on the other. Of the completely duplicated cases 18 were diagnosed clinically, while there was no instance of bilateral duplication with a bifid ureter on one side or on both being diagnosed clinically, and with two exceptions all were found at the post-mortem examination or in the dissecting-room. Fusion of the bifid ureter may occur at any point in its course. Of 52 cases of partial duplication collected by Dr. Mertz, including unilateral cases diagnosed post mortem or on operation, in 65 per cent. the fusion was below the iliac crest, while of the cases diagnosed clinically, all unilateral, the bifurcation was above this point in five, opposite the fourth lumbar vertebra in one, and in only one instance below this point.

THE LAW RELATING TO CORONERS' INQUESTS.

THE exhumation of the body of a married woman in West London was followed recently by an inquest at which the jury returned a verdict that death was due to acute blood poisoning, but that there was no evidence to show how it was brought about. The medical man who had attended the deceased in her last illness had certified that death was due to sapræmia, adding that there had been a miscarriage. Burial had followed, but the Registrar-General had referred the certificate back to the medical man, and an inquest followed. Except for the evidence of Dr. B. H. Spilsbury, who was of the opinion that the miscarriage had been due either to an operation or a drug, there was nothing pointing to criminal interference, beyond a few words uttered by the deceased when delirious, which the nurse attending her had heard. She had then said, "I told that woman she was hurting me. I shall never go to Notting Hill again," and "I am paying dearly for my sins." Before that, when questioned by the nurse and also in answer to her husband, she had denied that anything to procure miscarriage had been done to her. The position of the medical man attending such a case is a difficult one. In the instance under comment his suspicion had, no doubt, been aroused, and he gave a certificate which in fact and, no doubt, intentionally called attention to the point which needed clearing up. He had the alternative before him of refusing a certificate, and in the circumstances, if he could say that he knew of no cause why there should have been a miscarriage, and of no reason why a miscarriage should have had death as its result, no one could have blamed him for the refusal. It may be noted, however, that if by the refusal of a certificate the case had immediately been brought to the coroner's notice an inquest would have had to be decided upon by him before he ordered the post-mortem examination which alone would have shown whether an inquest was really desirable. The case, in short, would have illustrated the need for a coroner to have the power to order a post-mortem examination before making up his mind to hold an inquest, although presumably one would have been held if inquiry had made known the words uttered by the deceased. The amendment of the law relating to the registration of deaths and the holding of inquests is a subject which should engage Parliament as soon as there is time to discuss it thoroughly. Some Members of the House of Commons are evidently fully aware of this, for several questions have recently been addressed to Ministers to call attention to defects in the existing law. In answer to one of these Dr. Addison has stated that 6698 deaths were reported to coroners in 1919 as to which inquests were not held, the total number of inquests being 31,488. The statistics did not show whether any, and, if so, how many, of these deaths had been the subject of medical certificates. Other questions elicited that in all cases in which no medical certificate is forthcoming the Registrar-General refers the matter to the coroner; also that attention is being given to the question of coroners sitting, at their discretion and in certain cases, without juries. It will be interesting to observe, whenever legislation is brought about on the whole subject, how far this innovation due to the war has found favour among those best able to judge of its advantages and defects.

[1] Urologic and Cutaneous Review, November, 1920.

ALBUMINURIA OF SMALL WHITE KIDNEY.

THE differentiation of albuminuria due to severe renal disease from those forms having no sinister significance, such as the conditions of postural, adolescent, and cyclical albuminuria, remains one of great difficulty in spite of the attention which has been given to this question. Recently discussions have taken place before the Medical Society of London and also before the Assurance Medical Society, and prominence has been given to certain tests of renal function, such as the "urea-concentration test," and to certain chemical investigations of the protein present in the urine, especially the albumin-globulin ratio. We published in THE LANCET of Dec. 18th (p. 1249) an account of an interesting case of chronic nephritis with somewhat unusual features by Dr. Ivor J. Davies. A special point in this case was the long period of apparently good health with a large amount of protein in the urine. Chemical tests of the urine even a few days before the death of the patient from a subacute form of uræmia, showed the characters more usually associated with non-nephritic albuminuria—namely, a globulin-albumin ratio of 2 : 1. Moreover, the urinary diastase test of renal function gave a normal figure. In spite of this, intense albuminuric retinitis was found, which discounted the apparently favourable indications of the urinary examination. The special significance of the case seems to us that it illustrates the importance of a due correlation of all the evidence in every case of albuminuria. In spite of the high globulin ratio, there was evidence of slowly progressive cardio-vascular changes with increasing blood pressure, since as long ago as November, 1916, the systolic blood pressure was as high as 160 mm. Hg, while in May, 1920, it was 200 mm. Hg. Special tests only become of real value when their limitations or exceptions are recognised. For this reason the record of unusual cases serves a very useful purpose. Dr. Davies's case should emphasise the importance of adopting a critical attitude of mind to the findings of these tests in every case and of fitting in the

results as one part only of the evidence. Unfortunately no post-mortem was obtained in his case, which, as he claims, seems to have been of the type usually described as the small white kidney. We may hope that records of similar cases will be forthcoming.

SANITARY LESSONS OF A FORGOTTEN WAR.

IN 1847 the United States became embroiled with Mexico and sent its army, 13,000 strong, to Vera Cruz under General Scott, whom the Surgeon-General (Director-General) Lawson, not unnaturally, accompanied. Insufficient preparations were made; the campaign was expected to be a parade. The medical department was specially badly organised, and its defects may be stated, as a warning, from an account in recent numbers of the *Military Surgeon*, by Lieutenant-Colonel Louis C. Duncan, who has written numerous papers on the political importance to an army of an efficient medical service, showing how national campaigns have at times miscarried, and the history of the world has been changed, just because of sickness amongst the troops. In Mexico the fighting was comparatively simple; General Scott was always victorious, but the wastage of his army by sickness imposed on him long delays while he waited for reinforcements. As to the medical department, it had one officer to every 200 men, and the officers were the whole personnel. The medical officers were all attached to regiments; there was no medical divisional organisation, no hospitals but regimental. What were called base hospitals were improvised when necessary, an officer being taken from his regiment, given a house with no staff or equipment, and ordered to receive sick and wounded. These hospitals had no utensils for cooking or for feeding the sick, no clothing for them or blankets, no beds, bedpans, or urinals. In theory, they were staffed by untrained men borrowed from regiments; in practice by semi-convalescent patients, most of them unrecovered from dysentery and still spreading it. To go to a hospital was thought more dangerous than to go into action. There were no ambulances; luckily the battles were generally over by 10 A.M., so there was usually time for fatigue parties to collect the wounded before dark. The one health risk foreseen was yellow fever, and that was successfully avoided by hustling the army through the coast zone. The fighting lasted about eight months, the occupation ten months longer. About 74,000 men were used in all, and, per cent., 1½ were killed, 2½ wounded and invalided, 4 in all lost by enemy action; 13 died of disease, chiefly dysentery, and 13 were invalided; 26 lost by disease of every 100 men. Most people, the surviving soldiers certainly, were satisfied; at that day it was always so in war, and much the same in the Crimea, ten years later. The public was, as usual, assured that all was well, but the returning invalids brought dysentery with them, which became epidemic in the United States. Not until the regimental system was abolished was it possible to provide efficient hospitals for an army in war-time.

HOOKWORM DISEASE IN THE UNITED PROVINCES.

FOLLOWING up a series of investigations by officers of the Indian Medical Service into the prevalence of ankylostomiasis in certain Indian provinces, an inquiry has been made into the degree of prevalence of the disease in the United Provinces of Agra and Oudh by Lieutenant-Colonel J. W. D. Megaw, I.M.S., principal and professor of pathology, King George's Medical College, Lucknow. His results are published in a recent issue of the *Indian Journal of Medical Research* (Vol. VII., No. 4). The method of investigation employed was that of Lieutenant-Colonel Clayton Lane, which consists of a microscopical examination of the stools, treated in a special way, for the purpose of separating the eggs of the hookworm as far as possible from other materials in the stools. This method is so delicate that it reveals the existence of infection in a much larger percentage of people than was possible with the older methods that were used. The 25 districts that were investigated yielded an infection rate of 73·9 of the persons examined, and Colonel Megaw states that this suggests that nearly three-fourths of the adult population are infected with hookworms. It was found that the degree of infection varied in different districts, the people who lived in cities and towns showing a much lower rate than those who live in the rural districts; the probable explanation of this is that the use of latrines and the regular removal of night-soil greatly reduce the amount of soil contamination, the condition by which ankylostomiasis is largely spread. Hindus suffer far more in proportion than Mahomedans, the latter escaping to some extent because they wear shoes. In the more infected districts there is a general diminution of the standard of health and energy among the people, and consequently there is in the aggregate a great economic loss to the province. A large number of cases of serious illness is due to the action of the hookworm, and many cases prove fatal, either directly from anæmia, or indirectly from some other disease from which the patients would have recovered but for the fact that their vitality has been lowered by the ankylostome infection. An interesting point is the predisposition which hookworm disease induces to miscarriage and premature labour in pregnant women. Severely infected children show a remarkable degree of defective development; they are puny and deficient in intelligence. Colonel Megaw is of opinion that unless the masses come to realise the harm done by hookworm infection, and are ready to coöperate in the measures that are necessary for dealing with it, no great improvement is possible. Concerted action all over the province cannot be carried out with any prospect of success until the people as a whole have been educated to understand the rudiments of hygiene, and the only means by which the people can be taught the language and ideas of hygiene is by making the teaching of the subject compulsory in the schools and colleges. It is believed that if the medical men in the province were provided with the means of diagnosing the disease and of treating it, much good would be done, for the malady is easy to diagnose and not difficult to cure. There are good reasons for believing that the universal use of suitable latrines, or suitable septic tanks, would prevent the soil from becoming contaminated by infected stools, and thus the disease would in time be stamped out.

THE Senate of the University of London have awarded the William Julius Mickle Fellowship to Miss Harriette Chick, D.Sc., Fellow of University College, in recognition of her contributions to the knowledge of nutrition and of her work on the prevention and cure of deficiency diseases during the past five years. Dr. Chick's researches have been carried out at the Lister Institute and in Vienna, and have been published in THE LANCET and other journals, in conjunction with Miss R. E. Barnes, Miss M. E. D. Campbell, Dr. E. Dalyell, Miss E. M. Delf, Miss E. M. Hume, Miss R. F. Skelton, Mrs. Henderson Smith, and Miss F. M. Tozer.

DONATIONS AND BEQUESTS. — The following charities among others will benefit under the will of the late Miss Mary Low: Dr. Barnardo's Homes, London Hospital, West London Hospital, East London Hospital, St. Mary's Hospital, Middlesex Hospital, Charing Cross Hospital, Poplar Hospital for Accidents, Queen Charlotte's Lying-in Hospital, National Orthopædic Hospital, Indigent Blind Visiting Society, and the Royal Association in Aid of the Deaf and Dumb. The testatrix left estate of the value of £23,404. After the payment of a number of legacies to relatives and others the residue of the property is to be paid to the institutions mentioned in such shares as the executors may direct.—By the will of the late Mr. Benaiah Duncan Gibb, jun., of Whatlington, Sussex, a sum of about £22,000 will be divided between St. Thomas's Hospital, Guy's Hospital, St. Bartholomew's Hospital, Middlesex Hospital, London Hospital, and Earlswood Asylum.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

A MEETING of the General Council of King Edward's Hospital Fund for London, for the purpose of granting awards, was held on Dec. 14th at St. James's Palace, under the presidency of the PRINCE OF WALES.

Lord REVELSTOKE (Honorary Treasurer) said that the amount received for general purposes for the period from Jan. 1st to Dec. 4th, after deducting expenses, amounted to £156,880 5*s*. 5*d*. The original estimate for the whole year was £183,283. Since the date on which this estimate was framed they had received the very generous offer of King George's Fund for Sailors to contribute an amount equal to the grant made to the "Dreadnought" Hospital—viz., £4000. This last item would, therefore, have the effect of increasing the total of net estimated receipts to £187,283. This latter figure did not include a further £3794 from the Wernher legacy, left to capital; or a further sum of £18,000 from the Lewis estate, sums received from which had always been treated as capital. A gift of £5710 from Mr. Guggenheim, of New York, part of an engagement present from him upon the announcement of Miss Guggenheim's engagement to Viscount Stuart, and made at her request, had also been received. This would increase the total to almost exactly £193,000.

In order to make the distribution of £200,000 they were still compelled to deplete the reserves to the extent of another £7000. Including the £46,000 withdrawn in December last, mainly in order to assist to deal with deferred renewals and repairs, and more especially, of course, the £250,000 paid as an emergency distribution in July last, there had been a reduction in the reserves of £303,000 resulting in a decrease of nearly £20,000 in the annual income of the Fund. The Finance Committee recognised that these sacrifices had been rendered necessary by the urgent needs of the hospitals at the present time. But it was very evident that they could not continue to deplete the reserves and, at the same time, to maintain the annual distribution at its recent level. He was glad, therefore, to be given to understand that a committee on the whole question of the position of the voluntary hospitals was about to be appointed by the Government.

Sir WILLIAM COLLINS, on behalf of the League of Mercy, said that the League would be in a position to hand over £16,000 to King Edward's Fund this year.

Sir JOHN TWEEDY (chairman of the Distribution Committee) presented the report of that committee, which stated that the present distribution was the third made by the Fund during the year, the first being the emergency distribution of £250,000 in June and the second, a similar sum (a month later), which was given by the British Red Cross Society and the Order of St. John.

List of Awards.

The Distribution Committee desire to draw attention to the fact that it must not be assumed that the reduction or absence of a grant implies dissatisfaction.

The amount of the emergency grant made in July last, and taken into account at the present distribution, is given in parentheses.

Acton Hospital (£100), £350, of which £250 to extension, in accordance with the scheme submitted to the Fund.

Alexandra Hospital for Crippled Children (£100), £100.

Beckenham Cottage Hospital (£25), £300, of which £250 to extension, in accordance with the scheme submitted to the Fund.

Belgrave Hospital for Children (£600), £1000.

Blackheath and Charlton Hospital (£100), £150.

Bolingbroke Hospital (£1500), £750.

British Hospital for Mothers and Babies, Woolwich (£120), £1650, of which £1500 towards the building of the amalgamated hospital, in accordance with the scheme submitted to the Fund.

Canning Town Women's Settlement Hospital (£500), £600, of which £100 to reduce debt.

Central London Ophthalmic Hospital (£300), £350.

Central London Throat and Ear Hospital (£100), £100.

Charing Cross Hospital (£2100), £5000, of which £250 to improvements.

Chelsea Hospital for Women (£500), £1500, of which £1000 to new nurses' home, in accordance with the scheme submitted to the Fund.

Cheyne Hospital for Hospital (£200), £150.

City of London Hospital for Diseases of the Chest, Victoria Park (£3000), £3000, of which £500 to proposed sanitary improvements in accordance with the scheme submitted to the Fund.

City of London Maternity Hospital (£700), £600.

Clapham Maternity Hospital (£450), £400.

Dreadnought Hospital (Seamen's) (£1000), £4000, the amount of the ordinary grant to this hospital this year is being generously given by King George's Fund for Sailors, as a temporary measure, earmarked for the Seamen's Dreadnought Hospital.

East End Mothers' Lying-in Home (£450), £450.

East Ham Hospital (£150), £600, of which £500 to rebuilding and extension as a general hospital, in accordance with scheme to be submitted to the Fund.

East London Hospital for Children (£3000), £1500.

Elizabeth Garrett Anderson Hospital (£1250), £1000.

Eltham and Mottingham Cottage Hospital (£50), £100.

Finchley Cottage Hospital (£50), £600, of which £500 to extension, in accordance with the scheme submitted to the Fund.

Florence Nightingale Hospital for Gentlewomen (£300), £300, of which £100 to reduce debt.

French Hospital (£100), £200, of which £100 to improvements, in accordance with the scheme submitted to the Fund.

General Lying-in Hospital (£500), £1400, of which £1000 to rebuilding on new site, in accordance with scheme to be submitted to the Fund.

German Hospital, —.

Great Northern Central Hospital (£12,000), £6000, of which £2000 to new nurses' home, in accordance with the scheme submitted to the Fund.

Grosvenor Hospital for Women (£400), £600.

Guy's Hospital (£7000), £12,000, of which £1000 to improvements in nursing accommodation, in accordance with the scheme submitted to the Fund.

Hampstead General and North-West London Hospital (£2000), £2600, of which £1000 to reduce debt, and £100 to improvements.

Hendon Cottage Hospital (£25), £300, of which £100 towards new operating theatre, X ray and nurses' home improvements, in accordance with the scheme submitted to the Fund.

Hornsey Cottage Hospital (£25), £600, of which £500 to extension, in accordance with the scheme submitted to the Fund.

Hospital for Consumption, Brompton (including Sanatorium at Frimley) (£3000), £5000.

Hospital for Diseases of the Throat (£50), £650, of which £500 towards loss incurred by postponement of building scheme through the war.

Hospital for Epilepsy and Paralysis (£1200), £2000, of which £500 to new out-patient department, in accordance with the scheme submitted to the Fund.

Hospital for Sick Children (£8000), £2650, of which £150 to fire staircase.

Hospital for Women (Soho-square) (£2000), £2000, of which £500 to reduce debt.

Hospital of St. John and St. Elizabeth (£100), £500.

Infants' Hospital (£700), £800, of which £250 to reduce debt.

Italian Hospital (£400), £200.

Kensington and Fulham General Hospital (£25), £25.

Kensington Dispensary and Children's Hospital (£25), £25.

King Edward Memorial Hospital (Ealing) (£750), £700, of which £50 to fire-escape staircase.

King's College Hospital (£17,500), £7000, of which £2000 to reduction of debt on removal to South London, making £79,100 in all contributed by the Fund to this purpose.

London Fever Hospital (£500), £250.

London Homœopathic Hospital (£3500), £1500.

London Hospital (£35,000), £13,000, of which £1000 to deficit on new nurses' home, in accordance with the scheme submitted to the Fund.

London Lock Hospital (£1000), £1100, of which £1000 to maintenance of Harrow-road Hospital and £100 to maintenance of Dean-street Hospital.

London Temperance Hospital, (£3500), £2000, of which £1000 to new nurses' home, in accordance with the scheme submitted to the Fund.

Maternity (Charity and District Nurses' Home, Plaistow (£250), £1300, of which £1000 to rebuilding and extension, in accordance with the scheme submitted to the Fund.

Memorial Hospital, Mildmay Park (£200), £200.

Metropolitan Hospital (£11,000), £2000.

Middlesex Hospital (£10,000), £5000.

Middlesex Hospital Cancer Charity (£500), £500.

Mildmay Mission Hospital (£600), £550.

Miller General Hospital for South-East London (£4000), £4000, of which £1500 to extension, in accordance with scheme to be submitted to the Fund.

Mothers' Hospital of the Salvation Army (£250), £850, of which £450 to new nurses' accommodation, in accordance with the scheme submitted to the Fund.

National Hospital for Diseases of the Heart (£200), £700, of which £200 to extension of out-patient department, in accordance with the scheme submitted to the Fund.

National Hospital for the Paralysed and Epileptic (£8000), £3000, of which £1000 to reduce debt.

Nelson Hospital (late South Wimbledon, &c.) (£300), £1000, of which £500 to extension, in accordance with the scheme submitted to the Fund.

Northcourt Hospital and Home for Sick Children, Hampstead (£100), £50, in consideration of the fact that curable cases are admitted.

Norwood Cottage Hospital (£225), £450, of which £50 to X ray and other improvements.

Paddington Green Children's Hospital (£250), £750, of which £250 to scheme.

Passmore Edwards Hospital for Wood Green, &c. (£150), £75.

Poplar Hospital for Accidents (£250), £1100, of which £1000 to new casualty department, in accordance with the scheme submitted to the Fund.

Prince of Wales's General Hospital (£7000), £5000, of which £1000 to reduce general fund debt, and £2000 to extension, in accordance with scheme to be submitted to the Fund.

Queen Charlotte's Lying-in Hospital (£2000), £1600, of which £850 to improved out-patient department, nurses' quarters, &c., in accordance with the scheme submitted to the Fund.

Queen Mary's Hospital for the East End, incorporating West Ham and Eastern General Hospital (£6000), £6000, of which £1500 to new maternity block, in accordance with the scheme submitted to the Fund, and £1000 to new nurses' home and operating theatre, in accordance with schemes to be submitted.

Queen's Hospital for Children (£6500), £1500.

Royal Chest Hospital, City-road (£1000), £1000.
Royal Dental Hospital of London (£500), £250.
Royal Eye Hospital (£500), £500.
Royal Free Hospital (£6000), £4500, of which £1000 to new nurses' accommodation, in accordance with the scheme submitted to the Fund.
Royal Hospital, Richmond (£500), £400.
Royal London Ophthalmic Hospital (£3000), £2500, of which £500 to reduce debt.
Royal National Orthopædic Hospital (£2000), £2500, of which £1000 to extension of out-patient department, in accordance with the scheme submitted to the Fund.
Royal Waterloo Hospital for Children and Women (£2000), £3000, of which £1000 to new nurses' accommodation, isolation wards, and extension of out-patient department, in accordance with the scheme submitted to the Fund.
Royal Westminster Ophthalmic Hospital (£200), £350, of which £50 to recent improvements in nurses' quarters.
St. Andrew's Hospital (Dollis Hill) (£50), £150, of which £50 to improvements.
St. Columba's Hospital (£200), £250, of which £50 to provision of shelter to top balcony.
St. George's Hospital (£8500), £7000.
St. John's Hospital, Lewisham (£350), £750, of which £250 to new out-patient department, in accordance with the scheme submitted to the Fund.
St. John's Hospital for Diseases of the Skin (£100), £250, of which £50 to new nurses' accommodation, in accordance with the scheme submitted to the Fund.
St. Luke's Hospital for Advanced Cases (£100), £200.
St. Mark's Hospital (£225), £450, of which £50 to improvements in nursing accommodation.
St. Mary's Hospital (£2000), £7000.
St. Mary's Hospital for Women and Children, Plaistow (£1500), £1700, of which £500 to the rebuilding of the nurses' and servants' quarters and out-patient department, in accordance with the scheme submitted to the Fund.
St. Monica's Home Hospital (£100), £150.
St. Peter's Hospital for Stone (£300), £300.
St. Saviour's Hospital for Ladies of Limited Means (Osnaburgh-street) (£100), £200.
St. Thomas's Hospital (£12,000), £11,250, of which £250 to lifts, and £2000 to enlargement of nurses' dining-room, in accordance with the scheme submitted to the Fund.
Samaritan Free Hospital for Women (£1500), £1300.
Santa Claus Home (£30), £50.
South-Eastern Hospital for Children, Sydenham (£200), £550, of which £250 to enlarged out-patient department, in accordance with the scheme submitted to the Fund.
South London Hospital for Women (£500), £1000.
Stoke Newington Home Hospital for Women (£75), £75.
University College Hospital (£10,000), £6000.
Victoria Hospital for Children (£1500), £1250.
Walthamstow, Wanstead, and Leyton Children's and General Hospital (£350), £600.
West End Hospital for Nervous Diseases (£750), £750.
Western Ophthalmic Hospital (£100), £400.
West London Hospital (£9500), £2000.
Westminster Hospital (£9500), £2800, of which £300 annual grant to acquisition of new site as agreed.
Willesden Hospital (£1000), £1850, of which £1500 to extension as general hospital, in accordance with scheme to be submitted to the Fund.
Wimbledon Hospital (£50), £400, of which £250 to new nurses' home, in accordance with the scheme submitted to the Fund.
Winifred House Invalid Children's Convalescent Hospital Home, £25.
Woolwich and Plumstead Cottage Hospital £25 (see special grant below).

Special Grant.—Woolwich and District War Memorial Hospital Building Fund, £3000, to provision of general hospital, in accordance with scheme to be submitted to the King's Fund.

Summary.

Grants	£187,000
Special Grant	3,000
Total grants to hospitals at ordinary distribution, Dec. 14th, 1920	190,000
Total grants at emergency distribution, July 5th, 1920	250,000
Total grants to hospitals for the year 1920 ...	£440,000

Apart from a further £250,000 distributed on July 23rd, 1920, on behalf of the British Red Cross Society and the Order of St. John of Jerusalem, in aid of schemes of extension or improvement at hospitals able and willing to treat ex-Service men.

Sir WILLIAM H. BENNETT, chairman of the Convalescent Homes Committee, presented the report of that Committee, which showed that the sum available for distribution amongst convalescent homes and consumption sanatoriums was £10,000, as against £12,000 in 1919. The number of applications eligible for consideration amounted to 51 from convalescent homes and 11 from consumption sanatoriums, as against 49 and 9 respectively last year. The convalescent homes which were reopened after the war during the course of 1919 had now been doing their normal work for a whole year. The amount allotted to these institutions had therefore to be further increased. This fact, combined with the diminution in the total placed at the disposal of the Committee, had reduced the amount available for distribution to consumption sanatoriums in consideration of the reservation of beds for the use of patients in London hospitals, and as the cost of maintaining beds had continued to increase, the Committee had been compelled to make a substantial reduction in the number of beds so reserved. The accommodation secured this year amounted to 44 beds at six sanatoriums.

Mr. JOHN G. GRIFFITHS, honorary secretary, presented the list of awards as follows. The Convalescent Homes Committee desire to draw attention to the fact that it must not be assumed that the reduction or absence of a grant implies dissatisfaction.

A.—Consumption Sanatoriums.

Children's Sanatorium, Holt, Norfolk, £880, of which £780 in consideration of the reservation of ten children's beds during 1921 for the use of certain London hospitals.
Daneswood Sanatorium (Jewish), Woburn Sands, £270, in consideration of the reservation of two beds during 1921 for the use of certain London hospitals.
Devon and Cornwall Sanatorium, Didworthy, South Brent, £1130, of which £1080 in consideration of the reservation of eight beds during 1921 for the use of certain London hospitals.
Eversfield Chest Hospital, St. Leonards, £50.
Fairlight Sanatorium, Hastings, £100.
Firs Home, Bournemouth, ——.
Kelling Sanatorium, Holt, Norfolk, £690, of which £50 to new disinfector and £540 in consideration of the reservation of four beds during 1921 for the use of certain London hospitals.
Mount Vernon Hospital, Northwood, £100.
National Association for the Establishment and Maintenance of Sanatoria for Workers, Benenden, Kent, £1870, of which £1620 in consideration of the reservation of 12 beds during 1921 for the use of certain London hospitals.
Northamptonshire Sanatorium, Creaton, Northampton, £1130, of which £1080 in consideration of the reservation of eight beds during 1921 for the use of certain London hospitals.
Royal National Hospital for Consumption, Ventnor, £2 .

B.—Convalescent Homes.

The names of convalescent homes receiving no grant are not published.

All Saints' Convalescent Home, St. Leonards, £25.
Beau Site Convalescent Home, Hastings, £50.
Brentwood Convalescent Home for London Children, Brentwood, £50.
Brooklands Home (Invalid Children's Aid Association), Worthing, £25.
Bushey and Bushey Heath Children's Convalescent Home, Bushey, £50.
Chelsea Hospital for Women, St. Leonards, £75, with a view to encouraging the admission of patients direct from the hospital.
Children's Convalescent Home, Beaconsfield, £25.
Children's Cottage Hospital, Cold Ash, Newbury, £25, in consideration of convalescent cases.
Children's Home Hospital, Barnet, £25, in consideration of convalescent cases.
Clevedon Sanatorium (Invalid Children's Aid Association), Broadstairs, £25.
Convalescent Home for Poor Children, St. Leonards, £150.
Convalescent Police Seaside Home, Hove, £80.
E. G. Anderson Hospital (Home of Recovery), Barnet, £250, of which £50 to reduce debt.
East London Hospital for Children, Bognor, £50.
Florence Emma Home (Invalid Children's Aid Association), Dover, £25.
Friendly Societies' Convalescent Homes, Dover and Herne Bay, £100.
Great Northern Central Hospital, Clacton, £125.
Great Northern Central Hospital, East Finchley, £150.
Highgate Convalescent Home for Children, Highgate, £50.
Jewish Convalescent Home (Children), Brighton, £75.
King's College Hospital, Hemel Hempstead, £150. The grant is made on condition that patients are admitted direct from the hospital.
London and Brighton Female Convalescent Home, Brighton, £25.
Metropolitan Convalescent Institution, Bexhill, £50.
Metropolitan Convalescent Institution (Children), Broadstairs, £100.
Metropolitan Convalescent Institution, Walton, £150.
Middlesex Hospital, Clacton-on-Sea, £250.
Miller Hospital Convalescent Home, Bexhill, £100.
National Hospital for the Paralysed and Epileptic, East Finchley, £125.
Paddington Green Children's Hospital, Slough, £100.
Poplar Hospital, Walton-on-Naze, £50.
Queen Charlotte's Lying-in Hospital, Kilburn, £75.
Queen's Hospital for Children, Bexhill, £100.
Royal Waterloo Hospital for Children and Women, Whippingham, £75.
St. Andrew's Convalescent Home, Folkestone, £100.
St. Andrew's Convalescent Hospital, Clewer, £25.
St. George's Hospital, Wimbledon, £100.
St. Luke's Home (Children), Woodley, Reading, £25, in consideration of convalescent cases.
St. Mary's Convalescent Home, Birchington, £25.
St. Mary's Home for Children, Broadstairs, £75, in consideration of convalescent cases.
St. Michael's, Westgate, £25.
St. Peter's Holiday House, St. Leonards, £25.
Samaritan Free Hospital, Amersham, £50.
Seaside, Seaford, £50.
Sunday School Union, Bournemouth, £25.
Sunshine Home, Hurstpierpoint, £50.
Surgical Home for Boys, Banstead, £25, in consideration of convalescent cases.
Tilford Convalescent Home for Children, Farnham, £25.

Victoria Home for Invalid Children, Margate, £25, in consideration of convalescent cases.
Victoria Hospital for Children, Broadstairs, £150.

Summary.

Grants to Consumption Sanatoriums	£6,420
Grants to Convalescent Homes...	3,580
Total grants for the year 1920	£10,000

Adoption of the Report.

The PRINCE OF WALES, in moving the adoption of the report and awards, read a letter from the King, in which His Majesty expressed his appreciation of the work of the Fund during the year, and his pleasure in the result of the London school collection of over £22,000.

The total amount distributed by the King's Fund this year, he said, was £700,000, the largest amount in any previous year being £230,000 in 1919. This included the distributions of £250,000 on two occasions earlier in the year. The present distribution was £200,000. The total amount given to maintenance this year was £414,000, as against £186,000 in 1919. The exceptional difficulties of the hospitals required this special effort. The King's Fund was founded to help to maintain the London voluntary hospitals. It was not responsible for their maintenance, but could only assist. The emergency distribution in July did not itself provide a cure and was intended to give time for remedies to be devised.

The Ministry of Health had announced that a special committee would be appointed to inquire into the position of voluntary hospitals, and in the meantime the Executive Committee of the Fund had been considering all suggestions that seemed likely to be at once useful, consistent with the maintenance of the voluntary system, and acceptable to the hospitals. When sending out the emergency grants in July, the Fund had asked all the hospitals to consider certain methods already adopted by some hospitals; for example, payment by patients able to pay, and systematic collections from employers and employed. The Executive Committee was now commending to the hospitals, through the British Hospitals Association, the suggestion that public authorities should pay the full cost of the hospital treatment of patients for whom those authorities had accepted responsibility. They had also appointed a subcommittee, with Sir Walter Trower as chairman, to consider the suggestion that contributions by donors might, subject to all necessary precautions and limitations, be exempted from income-tax.

The Fund welcomed the decision of the National Relief Fund to distribute £700,000 amongst the hospitals to relieve deficits caused by the war. The motion was seconded by Lord IVEAGH and carried unanimously.

Among the resolutions relating to arrangements for next year which were passed was one proposed by Lord BURNHAM, seconded by the Bishop of LONDON, and supported by Lord STAMFORDHAM and Lord SOMERLEYTON, to the effect that it be an instruction to the Executive Committee to consider and report to the General Council what principles of policy should be recommended to His Majesty's Government for the preservation of the voluntary system of hospital management and control, and that a special meeting of the General Council be held to consider such report on the earliest day possible.

A vote of thanks to the Prince of Wales for presiding, proposed by the SPEAKER of the House of Commons, terminated the proceedings.

THE first number of the *Review of Reviews* under the new editorship of Sir Philip Gibbs will appear on Jan. 15th, and is to contain articles on the vital problems of the age. Lord Robert Cecil, Mr. Augustine Birrell, Mr. Robert Bridges, Mr. G. K. Chesterton, Dean Inge, Sir Harry Johnston, Admiral Mark Kerr, Professor Gilbert Murray, Mr. John Masefield, General Gough, Mr. Alec Waugh, and Mr. H. G. Wells are contributing to this issue. The object of the *Review* is stated to be "to search out the truth-tellers in all classes and countries, to encourage the spirit of youth, and to support all movements and ideas which make for human progress and peace, without methods of violence and destruction."

CONTROL OF VENEREAL DISEASE.

Facilities for Individual Treatment.

THE Honorary Medical Secretary of the N.C.C.V.D. to the M.O.H. of ——.

As you are doubtless aware, the National Council for Combating Venereal Diseases is carrying on a considerable propaganda by newspaper advertisements. As a result they receive a large number of letters from sufferers asking for details with regard to their obtaining treatment.

In a considerable proportion of these cases no clinic is available in their neighbourhood and in many cases the patient is particularly anxious to receive the name of a suitable private doctor. In order to be in a position to give the most suitable information in these cases the Council is compiling a list of private practitioners throughout the country who are able and willing to undertake the treatment of venereal diseases.

The compilation of such a list would be greatly facilitated if you would be kind enough to let us have a list of practitioners in your area who have applied to you for supplies of salvarsan or other drugs, indicating that they are in the habit of treating these diseases.

I may add that in all such cases the permission of the doctor will be obtained before his or her name is placed on our list.

The M.O.H. of —— to the Honorary Medical Secretary of the N.C.C.V.D.

In reply to your letter, I have to inform you that I cannot supply you with a list of medical men in this area "who are able and willing to undertake the treatment of venereal diseases."

The proposal that your Council or any other society should recommend certain medical practitioners to members of the public is, to my mind, very wrong, and any medical officers of health who, for this purpose, sent you the names of selected medical practitioners would lay themselves open to severe criticism.

The correspondence of which the above is a digest involves principles of great importance to the medical profession and the public. The National Council for Combating Venereal Disease, in addition to its other spheres of activity, possesses a medical department whose function it is to reply to the thousands of letters received each year from applicants desirous of advice in relation to venereal diseases. In many instances the Council is asked to recommend a practitioner, living in the district of the applicant, who is competent to deal with these diseases. Prompt information might evidently benefit the individual inquirer and be the means of materially reducing the spread of infection. Hence the desire of the medical department of the Council to compile a list of medical practitioners throughout the country willing and able to undertake the treatment, and hence the issue of the letter, quoted above, to medical officers of health. The opposition of the health officer is based upon the reasoned conclusion that the materialisation of such a plan would act injuriously to the interests of both patient and practitioner. A medical officer of health, as such, has no means of determining the therapeutic ability with regard to venereal diseases of the medical men practising in the area under his official supervision. A certificate of fitness to give an intravenous injection gives no pledge of a practitioner's diagnostic ability or of his clinical judgment; and these are a matter of great importance at a time when there is a tendency to adopt a mechanical treatment of syphilis based upon laboratory data. There is another venereal disease vastly more frequent than syphilis, and the ability to administer salvarsan gives no clue to capability in administering treatment for gonorrhœa. We doubt, moreover, whether it would be politic or judicious to constitute the medical officer of health arbiter in such a matter, even if he were acquainted with the experience and judgment of local practitioners in the treatment of all forms of venereal disease.

But while we regard the proposal of the N.C.C.V.D. as unworkable, we frankly admit the altruistic motive of this proposal and the urgency of the need which provoked it. To meet this need we would rather suggest that in country districts and in towns of insufficient size

to justify a venereal clinic, a certain number of practitioners, proportionate to the population of the area, should be individually recognised by the Ministry of Health as constituting "individual clinics." The Ministry might require of every applicant for such an office evidence of proficiency, whether obtained at a recognised clinic or otherwise. A patient wishful of obtaining the address of an individual clinic could do so by applying to the medical officer or direct to the Ministry of Health. In the former case the medical officer would simply pass on the names of practitioners acting in this respect as Government officials. He would not himself be making an invidious selection from amongst local practitioners. Should such a scheme be realised the present valuable work of the N.C.C.V.D. would be rendered more efficient, since doubtless the Ministry of Health would furnish the Council with a complete list of all such individual clinics throughout the kingdom. The principle being accepted it would not be difficult to decide such details as the cost of equipment, maintenance, and the remuneration of the practitioner per case. The method suggested would secure efficiency and privacy of treatment without obtruding the practitioner's name upon the public in a manner derogatory to his own dignity, to professional ethics, or to the interest of brother practitioners. In towns which possess a venereal clinic no difficulty arises in finding its location. But individuals precluded by social position or temperament from attending a public institution run some risk from well-intentioned but inefficient efforts of practitioners lacking the necessary experience, or they gravitate into the clutches of the charlatan. Therefore, even in towns which possess clinics, there would be room for a certain number of individual clinics, information concerning which could be obtained by the means already indicated.

Another Manifesto on Immediate Self-disinfection.

The Medical Women's Federation has issued a statement to the effect that after careful consideration in all its bearings of the question of self-disinfection before and after sex intercourse, it is of opinion, apart from the serious moral responsibility involved, that on purely physical grounds there are serious objections to this method and to teaching its use to the public.

(*a*) It would be most undesirable to teach young boys and girls to tamper with their own sex organs, yet if it were efficient the method would have to be carefully and minutely taught to quite young boys and girls, even before puberty.

(*b*) It would not be desirable to teach every married woman to regard her husband as possibly suffering from venereal disease and to take precautions accordingly; nor would it be possible for every bride to carry out the instructions given, yet disease among married women forms a large percentage of the whole.

(*c*) The Medical Women's Federation believes that these methods are impossible for the majority of women to practise as recommended. Though a woman may be told to lubricate the vulva, in very few instances would the vagina and cervix be effectively treated. As is well known, infection both in the case of gonorrhœa and syphilis may take place at the cervix. The young are the most sought after, and the most readily infected, and hence they are the most dangerous as regards the further spread of infection, and they are the people who would find it most difficult to carry out the method.

(*d*) The means advocated, if properly carried out, are contraceptive. The Federation is not prepared to endorse the introduction of contraceptives broadcast to the public or to recommend contraceptives for "self-disinfection" when the action of such substances may not even be known to the user.

These methods, the memorandum concludes, are by no means certain to prevent infection in any given individual, especially as it would be impossible to ensure that they were really efficiently applied. "We can refer our readers to cases in which the most careful following of this method failed to protect. We therefore regard it as unfair to convey the impression of safety where real safety does not exist. Promiscuous intercourse cannot be made safe, and anything that tends to assume its safety may tend to increase it, and may thereby increase the incidence of the disease."

HEALTH IN PRISONS.

REPORT OF THE PRISONS COMMISSIONERS FOR 1919–20.

THE report has recently appeared of the Commissioners of Prisons and the Directors of Convict Prisons for the year ended March 31st, 1920, and may be obtained from H.M. Stationery Office (Cmd. 972. Price 6d.). There is much in this report of medical interest, and its general aspect forms the subject of a leading article in the present issue. Dr. O. F. N. Treadwell is one of the Commissioners who signs the report.

Extent of Illness.

The daily average number of sick prisoners treated out of hospital was in local prisons 726, while the daily average number under treatment in hospital was 375, the figures showing a slight upward tendency. With the abundance of employment available it is probable that the present prison population is very similar to that obtaining during the war; that is, the social inefficients, mental and physical, tend to drift to prison. In addition, we know, from medical reports received on individual cases, that there have been many physical and mental inefficients, the result of military service. These conditions will probably continue for some time, and a considerable proportion of the male prisoners will require medical treatment or observation resulting in a comparatively high hospital average.

Release on Health Grounds.

The number of male prisoners released on medical grounds (excluding 67 "conscientious objectors" and 1 Irish interned) was 11, and of female prisoners—all of whom were released on account of advanced pregnancy—35. One female prisoner was temporarily released under the Prisoners (Temporary Discharge for Ill-health) Act, 1913, as the result of refusal to take food. In addition, 33 males and 21 females were removed to hospital under Section 17 of the Criminal Justice Administration Act, 1914, for operation or treatment which could not be performed or given in prison. Of the prisoners so removed 3 males died and 20 males and 8 females returned to prison. The use of this section of the Act shows a tendency to increase. It is a most useful provision, enabling skilled operative and other treatment to be given in cases in which it could not be secured in prison except at very great expense. It is not always necessary or desirable to release prisoners for temporary conditions which can be cured or ameliorated. These prisoners are treated in the hospitals as ordinary patients, and when convalescent are brought back to prison. With rare exceptions the practice has not been abused by prisoners absconding while in hospital. No epidemic disease occurred, and there was a marked absence of influenza. There were 2 cases of scarlet fever, 1 of diphtheria, 3 of erysipelas, and 1 each of measles, malaria, and dysentery. The incidence of infectious disease thus continues at a very low figure, reflecting generally the satisfactory sanitary condition of the prisons. The deaths in local prisons numbered 49 (46 males and 3 females). Of the males, 4 committed suicide, 13 were executed, and 1 died from wounds self-inflicted prior to admission. The number of prisoners certified insane during the year under review was 74.

Mental Deficiency.

Seventy-nine male and 41 female prisoners were certified under Section 1 of the Mental Deficiency Act, 1913. The Secretary of State made orders in 54 cases (35 males and 19 females) under Section 9 of the Act for the removal of defectives from prisons to institutions, and, in addition, 20 males and 10 females were either sent to Poor-law institutions or handed over to the care of local authorities on discharge. Exclusive of these cases, 1344 males and 267 females were remanded to prison for mental observation. There were also 117 reports received from prisons of the reception of feeble-minded prisoners not coming within the scope of the Lunacy or Mental Deficiency Acts.

Penal Reform.

An important section of the report deals with penal reform. There have been indications that justices and others interested in the administration of the criminal law have been much exercised in their minds as to whether the means hitherto taken for dealing with persons committing offences are the best and most humane that could be adopted. The report goes on:

The opinion has been growing in intensity for some years that mental and physical disabilities may largely contribute to the commission of crime and that it is the duty of the community to investigate thoroughly such causes when

they exist, to determine whether such causes are beyond the ability of the individual concerned to control, whether they do not limit wholly or in part the responsibility for the commission of the offence, to what extent they should be taken in account in determining the question of punishment; and whether some form of *treatment* rather than *punishment* by imprisonment cannot be devised which shall be more scientific, efficacious, and humane. Two factors have, no doubt, contributed to the recent accentuation of this feeling—the operation of the Mental Deficiency Act, and the release from the naval and military hospitals of numbers of men suffering from mental and physical disabilities arising out of the war. The justices of the city of Birmingham early in 1919 took action and approached the Prison Commissioners in the matter, and asked that a whole-time medical officer might be appointed and that portions of the hospitals might be entirely partitioned off from the rest of the prison and adapted for the reception of persons on remand whose mental condition appeared such as to demand careful investigation. The request was complied with and Dr. M. Hamblin Smith was appointed. The Commissioners give interesting extracts from his report on the Birmingham scheme, one of these extracts being as follows: "The large use now made of 'shell-shock' as an excuse for criminal acts may be mentioned. Doubtless this is in some cases quite genuine. But in other cases it is simply used as a catch-word, and has taken the place of the 'drink' excuse of my earlier years in the service. The differentiation of the genuine cases, and the estimation of the precise value of this excuse is a matter of great difficulty."

Accurate Analysis of Mental Status.

The medical officers of the Borstal institutions have been making a careful investigation into the mentality of all the inmates. It is hoped that in due course a very complete analysis of each boy's mentality will be arrived at and recorded, which will result in the prompt certification of those coming within the scope of the Mental Deficiency Act of 1913, and of the useful grading, for purposes of special education and occupational teaching, of those below the average of their class and age, but not certifiable.

Dealing with convict and preventive detention prisons, the report mentions that any prisoner in preventive detention requiring hospital treatment, mental observation, &c., is removed to Parkhurst Convict Prison, the two populations being treated together for the purpose of medical statistics. The daily average number of sick in hospital in convict and preventive detention prisons was 178 males and 12 females. In addition, a daily average of 143 males and 10 females were treated out of hospital. From Portland Prison, where the population is largely composed of military prisoners, 6 cases of recurrent malaria and 2 of dysentery were reported. They all originated on active service. The deaths numbered 13; one male convict committed suicide. The death-rate from natural causes per 1000 of daily average population was 7·9, as against 16·5 in 1918–19. The difference between these two rates is entirely due to the influenza epidemics of 1918–19, but in a small population such as this wide fluctuations are to be expected. Eleven male convicts were certified insane; 35 males and 1 female were certified under Section 1 of the Mental Deficiency Act, 1913; and 23 males and 1 female were removed to institutions by order of the Secretary of State under Section 9 of the Act.

Dietary.

The war-time dietaries have continued in force—in the case of local prisoners without alteration, and in all other cases with the addition of 4 oz. of bread per diem. An exhaustive analysis of the body-weight of prisoners, &c., has been made with the object of forming a scientific estimate of the effect of these diets and of utilising, in the framing of a new permanent dietary, the experience gained during the war.

Staff and Remuneration.

The remuneration of the medical staff of prisons has been the subject of prolonged negotiations with the Treasury, and substantial improvement has now been made, although the increased salary is still offered in the unsatisfactory form of war bonus.

As a result the rank of deputy medical officer has been abolished, and the medical officer Class II. substituted, and the scale increased from £225–£400 to £300–£500, whilst the scale for medical officers Class I. has been raised from £450–£550 to £550–£700. These scales are exclusive of bonus. At the same time the Treasury agreed, in view of the importance of the duties now assigned to him, that Dr. S. R. Dyer should be promoted to, and receive the full title of, Medical Inspector, the Medical Commissioner ceasing to hold the title of Chief Medical Inspector. This is an administrative change of considerable importance, and should tend to increase the efficiency of the medical administration at headquarters.

In November, 1919, the Commissioners obtained the sanction of the Treasury for reorganising the male and female prison hospital staff, a subject which had been under consideration for some years, but had to be postponed during the war. When in full working order it is hoped that the new arrangements will fulfil a long-felt want in the proper care and nursing of sick prisoners.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Relative and Absolute Increase of Female Population in Austria.

THE census of the population of this country, taken on Jan. 31st, 1920, is now being analysed from various standpoints. The Board of Public Health, under whose auspices this work is conducted, has now published some figures, which form interesting reading. Thus it appears that the expected mitigation of the evil effects of the war is seriously hampered by the enormous surplus of females at present living in Austria. In pre-war times (last census taken 1910) the proportion of marriageable females to males was 1089 to 1000 on an average of the entire population. The figures are now 1225 to 1000. For urban districts and industrial centres the figures are much higher. Foremost is Vienna, with 1413 women to 1000 men; the mining districts are not far behind, whilst the agricultural parts of the country show a proportion of 1150 to 1000. These figures refer to women between the ages of 14 to 70 inclusive; children are excluded. The sex proportion for all ages of the entire population is 1192 women to 1000 men; hence the probable numbers of marriages and births are much less satisfactory than they were ten years ago. The high mortality, together with the low birth-rate—hardly increasing as yet—tend to increase the difficulties of the social reformer. Whilst at present a low number of mouths is not undesirable because of the food shortage, the future is undoubtedly with those countries which are able rapidly to increase their population.

New Government without a Minister of Public Health.

The present radical change of Government has so far not met adequately the wants of the profession, as the post of Minister—or rather Under-Secretary of State—for Public Health has remained unoccupied. Matters of public health are now referred to the Minister for Social Welfare, who has three medical men as his advisers. Such a change is in accordance with the rather reactionary policy of the ruling party at present in power. Numerous medical corporations have sent in vain their resolutions and requests to the Government, asking for full representation of medical needs in the process of rebuilding the State and social peace. Medical organisation has, however, already become powerful, and its weight will be felt in all affairs where medical interests are concerned, even without a Minister of Public Health to safeguard them.

The Cinema in Medical Instruction.

At a recent meeting of the Vienna Medical Society Professor Carl Beck, of Chicago, showed a series of moving pictures intended to elucidate the kind of work done by modern surgeons during the war in the United States. Plastic operations and the functional results obtained thereby were demonstrated by the guest. It was pointed out that this method made it possible accurately to judge of the value of certain modifications of plastic operations on the hand and fingers. Professor W. Weibel, interim chief of the first gynæcological and obstetric clinic in Vienna, then demonstrated a series of didactic kinematogram constructed at his clinic for regular use in teaching the students. Owing to the recent lack of cases available for demonstration students are rarely able to see the examples necessary for their education. Following the dismemberment of Austria, large portions of the population which formerly came to Vienna for medical aid are now cut off from the city, or go elsewhere. This is also evidenced by the extraordinary

drop in the number of patients in the clinics. Professor Weibel has therefore had cinematographed a series of normal and pathological operations and conditions. The delivery of pregnant women in particular, with the various kinds of manual and instrumental help, has been carefully dealt with in this way. Cæsarean section, enucleation of the uterus and its adnexa, and the removal of myomata have been taken into consideration; thus each single phase of the process may be studied and explained at leisure, and as often as required. Of course, such semi-theoretical instruction can never replace the experience gained at the bedside or in the operating theatre, but it is a material aid to the necessary knowledge. Slides showing the passage of a normal fœtus through an abnormal female pelvis, or the expulsion of the placenta by a uterus, are very instructive sights.

Hospital Problems on Demobilisation of the Army.

When the old empire was broken up the discipline of the army had already for some time been relaxed; numerous malingerers were unwilling to quit their pleasant hospital wards, knowing as they did the scarcity of work to be obtained outside; we had then more than 150,000 unemployed men in Vienna alone. These patients formed a union of "war invalids" and demanded permanent upkeep, claiming peculiar rights and privileges; for several months they were powerful enough to defeat every endeavour directed against their purely selfish policy. The "union" actually prevented; in certain instances, the demobilisation of superfluous hospitals, and gradually obtained such influence with the former social-democratic government, that they formed, so to speak, a state within the State. They refused to be dismissed from hospitals, chose their own doctors on the staff, dismissed or caused the dismissal of others who did not please them, and were the source of severe annoyance and serious financial troubles to the whole unfortunate country of Austria. Gradually, however, by dint of much tact, energy, and persuasion, the Under-Secretary of State for Public Heath, Professor Tandler, succeeded in reducing the number of hospitals and beds occupied by former soldiers and invalids. By evacuation of smaller hospitals and concentration of their inmates in larger buildings, mostly out of towns, by providing suitable work for the real and would-be invalids, by granting substantial subventions to them, enabling them to start earning afresh, he was able to reduce the number of military hospital beds from over 34,000 to less than 8000, the present number. These latter are occupied by really diseased or crippled persons; it now remains to reduce the number of hospital clerks to a reasonable figure. Many "invalids" exchanged their positions as hospital patients for those of clerks at the same hospital. Thus the average ratio of patient to hospital clerks and attendants is now 3 to 1 in the military institutions. That the old spirit of "invalidism" is not yet extinguished, however, has been plainly shown by incidents in two such hospitals. In the first case, an eye invalid grossly abused the doctor and the whole medical staff, and was protected by the "invalid council" of the institution; thereupon the hospital doctors struck work for 24 hours. The affair was soon adjusted by the coöperation of the Government and the Board of Invalids. In the other instance, where a similar occurrence took place in a hospital for consumptive patients, with even more offensive acts against the doctors, the latter obtained complete satisfaction only after a protracted strike. The invalids are beginning to appreciate the limits of their power.

Dec. 11th.

METROPOLITAN HOSPITAL SUNDAY FUND.—The annual meeting of the constituents of the Metropolitan Hospital Sunday Fund was held at the Mansion House on Dec. 17th under the presidency of the Lord Mayor. Mr. R. Holland-Martin, moving the adoption of the report, said that the collection was £121,053 this year, being £35,000 more than that of last year. The donations amounted to £31,000, an increase of £19,700 on 1919. Of the money raised this year £110,000 had already been given to hospitals. The report was adopted. Hospital Sunday, 1921, was fixed for June 26th.

Correspondence.

"Audi alteram partem."

SMALL-POX AND ALASTRIM.

To the Editor of THE LANCET.

SIR,—In an annotation in THE LANCET of Dec. 4th on the admirable report of Dr. S. Monckton Copeman on "The Relationship of Small-pox and Alastrim," it is, in my opinion, rightly concluded:—

> "That these types (of anomalous varioloid disease) are in all probability to be regarded as mild aberrant forms of small-pox rather than as providing evidence of the existence of a distinct varioloid disease."

Attention is also wisely drawn to "the different aspects presented by certain other diseases of known parasitic origin." Nosology is simply convenient for classification and guidance in preventive and curative medicine. The more skilled and experienced the physician the more respect he has for the subtleties of disease, and the more reliable becomes his ultimate diagnosis through the greater acuity and accuracy of his clinical observations, assisted, but not dominated, by laboratory evidence. Dogmatism is fatal, as, for instance, in a paper in a medical journal this year:—

> "If two or more patches are present on one tonsil or in one tonsillar area the disease is neither diphtheria nor Vincent's angina."

I am sure many clinicians who have made a practice of taking swabs from all sore-throats can bear me out in saying that cases occur which clinically would be called "follicular tonsillitis," but which are proved bacteriologically to be diphtheria. Other cases of diphtheria, without membrane or marked constitutional disturbance, are widely known as "carriers," and in many instances have been proved infective.

As regards small-pox, those with the largest experience well know that this disease presents greater difficulties in diagnosis than most diseases, but yet that with due recognition of its subtleties it is "perhaps of all diseases that in which a certain diagnosis can be arrived at in almost every case." (Ricketts.) Careful attention to *all* points is necessary, and too much importance must not be attached to single factors, some of which by themselves may be extremely misleading. Thus some may pay too much attention to the elements of the rash as regards "shottiness" and umbilication:—

> "There is no single touchstone for the differentiation of small-pox and chicken-pox—it is imperative to take the whole of the evidence and weigh it together." (Wanklyn.)

Alastrim, varioloid varicella, varicelloid variola, amaas, and other terms merely indicate an unusual type of small-pox, tending in later cases to revert to the more usual and less ambiguous type. Even in the earlier cases weighing the whole evidence together will generally lead to a correct diagnosis of a small-pox infection, though possibly in occasional cases positive diagnosis may need to be postponed until further evidence has accumulated—all necessary precautions being taken meanwhile.

Most of the cases recorded by Dr. Copeman occurred in the town of Beccles (Suffolk), though apparently the primary cases occurred in that part of the township which lies just north of the river Waveney in Gillingham, on the Norfolk side of the river. These were apparently seen by several medical men in consultation, and were notified as chicken-pox, though the fact that both were adults should have weighed against this diagnosis, especially in view of the fact that it was held that they had been infected by another adult—the skipper of a trawler who had recently been in quarantine. From these cases several further cases occurred in Beccles (Suffolk). On July 15th the medical officer of health of the Loddon and Clavering rural district (Norfolk) was informed that a young woman at Geldeston (Norfolk), who had visited one of the Beccles cases, was ill and had a spotted rash. He "found it indistinguishable from chicken-pox," but asked me to see the case with

him on July 17th, which I did, and made the following notes:—

"Female adult, aged 27, vaccinated in infancy. Had some constitutional symptoms (backache, fever, &c.) before eruption appeared; was in contact with another adult with rash two weeks ago. Distribution and character of rash: Vesicular eruption of face fairly profuse on forehead, a few vesicles on both wrists, one on dorsum of left hand, none on ankles, one in palm of left hand. A few scattered vesicles on the back, and on the proximal parts of the limbs. Eruption consists of papules, vesicles, and pustules said to have come out in 'crops.'"

I thought it best to consider the case as more probably variola, asked Dr. J. B. Stevens to vaccinate me on the spot, also to vaccinate the patient as an aid to diagnosis, and other members of the household as a precaution. I then suggested that a visit to the Beccles cases would be useful, and through the kindness of the M.O.H. (Dr. G. R. Fox) and his partner (Dr. H. Wood-Hill) saw a number. Some were unmistakable cases of small-pox (like the photographs appended to Dr. Copeman's valuable report). One or two had had so slight an eruption (one or two pocks) that seen by themselves and without a history of contact a diagnosis would have been far from easy. The Beccles cases seen by us absolutely clinched the diagnosis of small-pox in the Geldeston case, and also as regards the Gillingham cases (which I had not seen). On July 23rd Dr. Stevens wrote me: "All the vaccinations (Geldeston) have taken except that of the patient." One contact, adult male, a brother who had been exposed to infection since July 9th, and was successfully vaccinated on the 17th, developed a varioloid rash on the 30th. These vaccination results confirmed the usual experience that developed variola protects against vaccination, while variola and vaccinia may incubate at the same time with modification of the ultimate variolous attack. No further cases occurred among the contacts. A month later a visitor from London, male, aged 18, who had stayed a night in Beccles, August 11th, proceeded to another village (Hales) in Norfolk. On the 19th he noticed a "spot" on one hand. On the 21st he had rash on forehead, trunk, and limbs. On the 23rd, at Dr. Stevens's request, I saw this lad. My clinical notes run:—

"Papules and vesicles abundant on face (a few on scalp), also seen on palate, back, chest, abdomen, and limbs. Fairly profuse (but discrete) on proximal parts of limbs, very few on wrists, but some in palms and soles. Some vesicles multiloculated and others clear, large, rounded, and unilocular without areola. The relative abundance of the pocks on face and back, the fact of some pocks in palms and soles, together with evidence of constitutional prostration, weighed the evidence in favour of variola, notwithstanding that the general appearance and distribution of many of the vesicles were more suggestive of varicella."

The case was removed to hospital and contacts were vaccinated. It is interesting to note that on Sept. 4th the diagnosis of small-pox had not been confirmed, but that on Oct. 9th the superintendent of the small-pox hospital informed Dr. Stevens that he had finally come to the conclusion that the case *was* one of small-pox. The difficulties of diagnosis and the mildness of the type of small-pox in this outbreak are fully dealt with by Dr. Copeman.

It may be of service to repeat that diagnosis must be based on *all* the available evidence; not on any one point to the exclusion of others. My experience in this outbreak has induced me to formulate the following as aids to diagnosis in similar mild outbreaks:—

(1) In any case of doubtful nature always bear in mind the possibility of small-pox.

(2) Some cases of small-pox commence with a prodromal erythematous or petechial rash. The sites of selection of these prodromal rashes are about the flexures of the groins, shoulders, and knees.

(3) The distribution of the papules, vesicles, and pustules of the ordinary small-pox rash when fairly abundant and unmodified by recent vaccination is generally chiefly on forehead, back, and distal parts of limbs (wrists and ankles). In some cases there is no excess of rash on distal parts of limbs. (When modified by recent vaccination distribution of rash is also modified.)

(4) Both variola and varicella rash may come out in crops and show papular and vesicular elements at the same time.

(5) *Character of elements.*—The vesicles of small-pox, when fully developed, are larger and rounder than those of varicella, even though they may appear to be superficial and filled with clear lymph. Umbilication is not a distinctive character.

(6) *Incubation period.*—Shorter in variola than in varicella.

(7) *Constitutional symptoms at onset.*—Backache, three days' fever before rash, and prostration, generally marked in variola; only exceptionally so in varicella.

(8) *Age-incidence in moderately well vaccinated communities.*—Varicella most common in early childhood; variola in persons over 15. (Occurrence of several cases of varicelloid rash among persons over 15 at once suggests variola rather than varicella.)

(9) While taking all common-sense precautions, in view of the drastic action arising out of notification of small-pox, suspend diagnosis and notification until evidence is clear.

Outbreaks like this outbreak of small-pox in East Anglia in 1919 are additional evidence in favour of the arguments adduced in my book on "Evolution and Disease" (John Wright and Co., Bristol).

I am, Sir, yours faithfully,

J. T. C. NASH, M.D. Edin., D.P.H. Camb.,
County M.O.H., Norfolk.

Norwich, Dec. 8th, 1920.

ENTERIC FEVER AND PROTECTIVE INOCULATION.

To the Editor of THE LANCET.

SIR,—In THE LANCET for Dec. 11th Lieutenant-Colonel J. R. Harper, R.A.M.C., gives his experience of "The Clinical Aspects of Enteric Group Infection as Modified by Protective Inoculation." It is interesting to find that a clinical observer, with so considerable an experience, does not regard atypical enteric fever as altogether a myth, nor consider serological evidence to be entirely unreliable. It is not, however, with this side of the question that I am at present concerned. Colonel Harper, in comparing the relative freedom of our troops from enteric infections during the recent war with the high incidence and heavy mortality from the same cause in the South African campaign, gives 7423 cases as the official figure for the total incidence of infections of this type among our armies in France.

In examining a considerable series of febrile cases invalided from the Western front between October, 1916, and March, 1919, we were led to the conclusion that a certain proportion of atypical enteric infections were probably escaping detection in France, a thing which appeared to us to be unavoidable under the exigencies of warfare. The object which we had in view in undertaking the investigation, and the conclusions to which we came may be summarised by two quotations from our report to the Medical Research Council.[1]

"The epidemiological facts of the war should provide data of the greatest interest; and it will be of vital importance to determine whether the cases actually diagnosed as enteric give a correct picture of the incidence of this type of infection among our army in France, or whether there must be added some considerable number of cases which have escaped diagnosis in the early stages and have then gone to swell the large class of undiagnosed pyrexias. A true answer can only be obtained by the close examination of comparatively small samples of cases, and the deduction of a factor which must be applied to the whole mass of undiagnosed pyrexial conditions. Whether it will be possible to arrive at a sound judgment on this matter remains to be seen. This investigation yields a tentative answer which will be confirmed or refuted by the accumulation of evidence obtained by other workers."

"It is probable that taking the whole period, October, 1916, to March, 1919, between 5 and 7 per cent. of those cases which were invalided to this country from the Western front, suffering or convalescent from undiagnosed febrile conditions, were in reality examples of atypical enteric infection. The percentage of undiagnosed enteric cases was probably higher than this average figure during the earlier part of this period, and lower during the later. This conclusion is based almost entirely on serological evidence, and must stand or fall by the reliability of this method of diagnosis."

If these conclusions be sound, there is, I think, an important lesson to be drawn from them. They would indicate that the incidence of enteric infection was far greater than the figures for the diagnosed cases suggest, while they would emphasise the effect of prophylactic inoculation in transforming a disease of high mortality into a relatively minor infection, and in preventing its epidemic spread.

I am, Sir, yours faithfully,

W. W. C. TOPLEY.

Institute of Pathology, Charing Cross Hospital Medical School, Dec. 14th, 1920.

[1] Topley, Platts, and Imrie: "A Report on the Probable Proportion of Enteric Infections among Undiagnosed Febrile Cases Invalided from the Western Front since October, 1916." Med. Res. Council, Spec. Rep. Series, No. 48. 1920.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At recent examinations the following candidates were successful:—

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.

Part I., Physics and Electrotechnics.—William Bell, Thomas Ignatius Candy, Walter Herbert Coldwell, Thomas Joseph Aloysius Connolly, Henry Thomas Cubbon, James Patrick Smyth Dunn, Arthur Herbert Gregson, Robert Neil Guthrie, James Basil Higgins, Max Hermann Knoch, Ronald Simpson Paterson, and Justina Augusta Wilson.

Part II., Radiology and Electrology.—William Bell, John Prichard Bracken, Thomas Ignatius Candy, Walter Herbert Coldwell, Thomas Joseph Aloysius Connolly, Henry Thomas Cubbon, Arthur Herbert Gregson, Robert Neil Guthrie, James Basil Higgins, Ronald Simpson Paterson, and Frederic Gardiner Rose.

UNIVERSITY OF LIVERPOOL.—At examinations held recently the following candidates were successful:—

SECOND EXAMINATION FOR M.B. AND CH.B.

Part A.—A. R. D. Adams, *J. Berkson, *R. W. Brookfield, *T. L. Bulmer, I. Casdan, *W. J. B. Chidlow, *R. G. Cooke, *I. H. Davies, L. Davies, *Hilda M. Davis, F. Earlam, F. S. Fowweather, Susan Gluck, A. B. Griffiths, J. R. Griffiths, J. Hallam, D. C. G. Hanlon, A. J. Hawe, *C. W. Healey, *S. Hesselberg, Elizabeth Hunt, L. E. Johnson, F. H. Jones, †R. W. Jones, A. Kefelas, T. S. King, T. J. Kirkpatrick, Eileen M. Lloyd, Marion R. Lunt, D. Macfarlane, Mary M. McMillan, †P. Malpas, G. H. Mann, C. H. Owen, Eleanor M. P. Pearson, J. D. O'M. Poole, E. L. Roberts, †J. Roberts, *Dorothea W. Rogers, J. A. Scott, J. F. D. Shrewsbury, Helen Standring, J. R. A. Tallack, Dorothy A. Taylor, *Elizabeth M. Theron, V. T. Thierens, H. A. Thomas, J. G. Thomas, R. W. Thomas, J. H. Thompson, *A. Tumarkin, A. E. Wall, E. J. Whymark, H. P. Widdup, A. G. Wilkinson, E. B. Wilkinson, and J. Williams.

* Distinction in Anatomy.

† Distinction in Anatomy and Physiology.

Part B.—Ethel Ashton, N. B Cooke, C. Cookson, V. C. Cornwall, W. H. A. Dodd, J. O. Edwards, J. Elsohn, D. P. Finn, H. S. Gordon, R. C. Gubbins, W. D. Jeans, J. R. Parry, Gertrude E. Pugmire, Mary D. H. Sheridan, and A. Weisberg.

FINAL EXAMINATION FOR M.B. AND CH.B.

Part I.—E. W. Ashworth, Eudora V. Beatty, J. R. Bhatia, D. Brown, Hilda Cantrell, A. Cathcart, Marie B. Clarke, Mildred M. Clegg, R. W. Cockshut, H. Cohen (distinction in pathology), M. J. Cohen, C. Cookson, Gladys W. Darlington, J. B. Elleray, W. C. Evans, R. A. Galway, J. V. Hall, S. B. Hall, T. K. Hughes, Hilda F. Jefferson, Irene E. Kenworthy, Dorothy E. Knowles, Eleanor Lancelot, N. H. H. Longton, B. L. McFarland, F. Q. McKeown, Annie Mather, Vera M. Mitchell, J. H. Moorhouse, Annie R. Niven, Muriel Pickering-Jones, E. D. Pridie, Gertrude E. Pugmire, D. Riding (distinction in pathology), J. E. T. Shirlaw, Enid F. Stowell, J. E. Sykes, N. S. Taylor, Mary A. Thomas, A. K. P. Tobin, L. F. Unsworth, S. A. Walker, C. H. Walsh, A. Weisberg, C. A. Wells (distinction in pathology), Dorothy A. Williams, and Grace H. Wood.

Part II.—A. V. Campbell, C. H. R. Carmichael, E. N. Chamberlain (distinction in Forensic Medicine and Toxicology), R. W. Cockshut, J. B. Elleray, E. H. Glynn, P. R. Hawe (distinction in Forensic Medicine and Toxicology), A. R. Jones, Beatrice M. Niven, and N. S. Taylor.

UNIVERSITY OF DUBLIN, TRINITY COLLEGE, SCHOOL OF PHYSIC.—At examinations held recently the following candidates were successful:—

FINAL MEDICAL EXAMINATION, PART I.

Part I., Materia Medica and Therapeutics; Jurisprudence and Hygiene; Pathology and Bacteriology.—Maurice Bewley, Gilbert Marshall Irvine, Cornelis Derksen Dijkman, Daniel Hugo, Charles Eason Brunton, Leon Olivier Vercueil, Victor Robinson, and Seymour Grome Rainsford (all of whom passed on high marks), George Blackall and Charles Eustace Ovendale (equal), Samuel Gerald Weldon, Maximilian William Kaplan and William Baker Edward McCrea (equal), Joseph Cecil Gillespie and Michael Gerard John Powell (equal), John Charles Joseph McEntee and Cyril James Ussher Murphy (equal), Hendrik Nicolas Krige, Ivan Marais, John Lait, George Cyril Brereton Robinson, John Beattie Horan, Francis Maybury Hilliard and Gideon Clement Malherbe (equal), Robert Henry Satchwell, Willliam Sydney Dickson, Richard Lang, Margery Bouchier-Hayes and Beryl Frances Emily Cockle (equal), James Valentine Williams and Izak Frederik Albertus de Villiers, and William Edward Holmes (equal).

Materia Medica and Therapeutics; Jurisprudence and Hygiene.—Arthur Geoffrey Bewley, Doris Holland, Samuel Wilfred Russell, Albert Edward Phillips, Ninian McIntire Falkiner, Harry Christol Dundon, Henry Lyle Hanna, James Devane, Jacobus Frederik van Staden, and James Joseph Patrick Kelly.

Pathology and Bacteriology.—William Harden Smith, Anthony Divir Ward, John Russell Craig, James Robertson Wills, Albert Stanley Bradlaw, Vera Gladys May Menary, and William Allen Murphy.

Part II., Medicine.—Edmund Cyril Smith (high marks), Leo Herzenberg, Cecil Emrys McQuade, Percival Israel Levitt, Daniel de Bruijn and Theodor Radloff (equal), John Henry Breuell Crosbie, Edward Gordon Campbell, Nannette Norris, Mary Horan, Isaac Levy, Mervyn Edmund McBrien, Nora Griffith, Eric William Swain Deale, and Harold Osmond Hofmeyr.

Midwifery.—Philip Jabkobitz and Margaretta Tate Stevenson (high marks), Daniel de Bruijn, James Alexander Acheson and James Carlisle Davis (equal), Edward Gordon Campbell, Alice Elizabeth Lawlor, Patrick Mary Joseph Bobbett, Lionel Wigoder, John Carson Brennan, Theodor Radloff, Albert Stanley Bradlaw and John Russell Craig (equal), Edith Florence Willock, Vera Gladys May Menary, John Richard Waugh, Richard Victor Dowse, John Mervyn Semple, Mary Horan, Robert Henry Satchwell, and Harold Osmond Hofmeyr.

Surgery.—Theodor Radloff (high marks), Cecil Emrys McQuade, Robert Henry Joseph Mulhall Corbet, Francis Young Pratt, Richard Wood Power, Eric William Swain Deale, Thomas Falkland Litton Cary and Isaac Levy and Frederick William Shegog (equal), Elinor Dorothy Stopford, James Alexander Smith, Elsie Anna Burns and Harold Osmond Hofmeyr (equal), Cecil Samuel Wilson, Emily Elspeth Grace Baillie and Constance McIlrath (equal), David John Browne, Donald Victor Latham and Eric Stuart Ewing Mack (equal), Ruth Florence Flavelle, and Nora Griffith and Samuel Reginald Hill and Thomas Whelan Panter (equal).

DIPLOMA IN PUBLIC HEALTH.

Part I., Chemistry, Bacteriology, Physics, and Meteorology.—Sylvester Joseph Healy, Satindra Kumar Sen, Frederick William Godbey, Charles Lewers McDonogh, and Patrick Joseph Lane.

Part II., Sanitary Engineering, Sanitary Inspection and Report, Hygiene, Epidemiology, Vital Statistics, Public Health Law.—Sylvester Joseph Healy, Patrick Joseph Lane, Satindra Kumar Sen, Joseph Patrick Quinn, and Mary Christina Sheppard.

THE ROYAL COLLEGES OF IRELAND AND THE ACADEMY OF MEDICINE OF FRANCE.—Both the Royal Colleges have accepted invitations from the French Ambassador to be represented at the celebrations of the Academy of Medicine in Paris this week. The Royal College of Physicians is represented by Dr. George E. Nesbitt, F.R.C.P.I., and the Royal College of Surgeons by its Vice-President, Sir William I. de C. Wheeler, and an ex-President, Mr. F. Conway Dwyer, F.R.C.S.I.

UNIVERSITY OF EDINBURGH.—At the graduation ceremonial held in the M'Ewan Hall, Edinburgh, on Dec. 17th the following degrees were awarded:—

* John Budge Alexander, Stanley Arnott (in absentia), †Percy William Page Bedford, Hugh Peace Caithness, ‡Frederick Dillon, Jean Dorothy Don, Frederick John Carlyle Johnstone, *George James Irvine Linklater, Isobel Mary MacLullich, Ada Johanna Macmillan (in absentia), *John McCallum Anderson Macmillan (in absentia), James Matthews Duncan Scott (in absentia), James Maclure Smellie, Edward Thomas Arnold Stedeford, †Roy Mackenzie Stewart, and *Gladys Ward.

* Commended for thesis. † Highly commended for thesis.

‡ Awarded gold medal for thesis.

BACHELOR OF MEDICINE AND BACHELOR OF SURGERY.

Edward Hutchinson Ablett, Isobella Macindoe Malcolm Aitken, Claude Black Brownlie, Evan Moir Byres, Clarence Alexander Calder, Ernest Henry Connell, Mary Ellimore Cripps, Elizabeth Ellen Critchley, Cornelia Johanna Jacoba Cross, Arthur William Gordon Cumming, Andrew Hume Cuthbert, William Eadie, Johannes Wilhelmus Eijkelenboom, Dorothea Moncrieffe Gall, Robert Menzies Galloway (second-class honours), Sydney George Haycraft Gasson, Isabella Anne Gillespie, Israel Goldberg, Winsome Doris Grantham, William Logan Grassick, Henry Alexis Chodak Gregory (in absentia), John Darbyshire Grierson, Errol Fleming Griffin, Thomas Ernest Hastings, Harold Heyworth Holden, William Langwill Hunter, Elly Isserow, Robert Jackson, Maurice Kirkpatrick Jardine, Joseph Primrose Leckie, David Rhys Lewis, John Kenneth Crawford Liddell, John Stewart Macbeth, Flora MacDonald, Isabella Jane Macfie, Robert MacGarrol, Alexander Lee McGregor (first-class honours), Felix Arthur Ernest Meiné, Parakal Sankara Menon, James Davidson Mill, Rosemary Owen Morris, Deborah Frieda Morrison, Harvey Nichol, Howel Bulkeley Pierce, Coenraad Lucas Pieters, Jacob Wolf Rabkin, Roberta Theresa Rankin, Marion Elizabeth Reid, Frederick Henry Reynolds, Jossel Riesnik, David Gordon Robertson, Helena Jane Robertson, John Robinson, George Victor Sydney Rodriguez, Eileen Susan Pears Rowney, James Gordon Russell Scarff, Jack Smith, Dorothy Mary Somerville, Helen Crossman Spencer, Marguerite Stewart, Sydney Scott Sumner, John Binnie Taylor, Leslie Wroughton Thomas, John Alexander Thomson, Philippus Cornelius du Toit, Oliver Hilton Wild, Anna May Williams, David Hardie Williamson, and Christine Vera Dorothy Willway.

DIPLOMA IN PUBLIC HEALTH.

Robert M'Milan Bowman (in absentia), Gordon Lilico, and Colin Cameron Philip (in absentia).

FACULTY OF MEDICINE.

Thesis Gold Medallist.—Frederick Dillon.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At a meeting of the College held on Dec. 15th the following candidates, having passed the requisite examinations, were admitted Fellows:—

William Barclay, William Gillies Borrie, Isidore McWilliam Bourke, Ernest Ebenezer Bronstorph, Francis Robert Brown, John Chisholm, John Lewis Anderton Grout, Gertrude Marian Amalie Herzfeld, William Robert Clayton Heslop, Robert Lance Impey, Savariroyan Jesudason, Frank Hutchinson Kennedy, George Edward Kidd, John Thomas M'Cullagh, Eric Lofts Mackenzie, Jack Morlet, Susil Kumar Mukhopadhaya, Henry Clarence Wardleworth Nuttall, William Tyrrell Patterson, James Wilfred George Hewat Riddel, Harry Dudley Rollinson, Zachary Macaulay Hamilton Ross, William Henry Simpson, Arthur Cloudesley Smith, John Eric Stacey, and William Benjamin Batchelor Taylor.

Mr. Thomas Baxendale Patterson, having passed the requisite examinations, received the Higher Dental Diploma.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—At the annual meeting held on Dec. 2nd, Sir Robert W. Philip was re-elected President for the ensuing year. The other office-bearers were appointed as follows:—Vice-President: Dr. Harry Rainy. Councillors: Dr. J. W. Ballantyne, Dr. F. D. Boyd, Dr. G. M. Robertson, Dr. R. Thin, and Dr. J. L. Lackie. Treasurer: Dr. Norman Walker. Secretary: Dr. J. S. Fowler. Honorary Librarian: Dr. J. W. Ballantyne. Curator of the Research Laboratory: Dr. J. J. Graham Brown. Dr. George Sandison Brock was elected a Fellow of the College.—At an extraordinary meeting held on Dec. 14th, Sir Robert Philip in the chair, Dr. F. W. N. Haultain and Dr. John Macpherson were elected as representatives of the College on the board of management of the Royal Infirmary.

HARROGATE MEDICAL SOCIETY.—On Dec. 11th, in the Hotel Majestic, the annual oration of the society was delivered by Sir Berkeley Moynihan, on Gastric Ulcer, with illustrative lantern slides of radiographs, Mr. Herbert Frankling presiding. Over 80 members of the society were present.

MEMORIAL TO THE LATE LIEUT.-COLONEL HENRY MOORE, D.S.O.—Henry Moore was one of the surgeons of the Royal City of Dublin Hospital who in August, 1914, became attached to a field ambulance in France. Although past the age regarded with favour by the War Office in the early days of the war, he succeeded at once in getting to the front line. Moreover, in spite of many offers of base work, he stayed in the front line until he was killed by shell fire while operating in the summer of 1918. Both at home and in the army he had innumerable friends, and they have joined to perpetuate his memory in the Royal City of Dublin Hospital, to which he gave the work of many years. A bed and a cot have been endowed, and a brass tablet erected in the hall of the hospital. On Dec. 18th the brass was unveiled by His Honour Judge Pigot, K.C., who paid a tribute to the memory of one who was greatly loved in his hospital, by his professional and service comrades, and by his patients.

UNIVERSITY OF GENEVA.—International societies are a commonplace in Geneva, but some of them are able to maintain prestige even in their home city. The aula of the University was comfortably filled on the evening of Dec. 10th to hear Mr. George Milsom speak on the constitution and work of the League of Red Cross Societies. The lecturer drew a parallel between articles of this League and the covenant of the League of Nations, emphasising the democratic nature of both. The solidarity shown by the Red Cross Societies must be conserved at present for the tasks of peace—the war with disease was not ended—and for the prevention of future international strife. Among the achievements of the League was mentioned the collection, as a result of appeals to the 31 member societies, of over 10 million French francs for the combating of typhus in Poland. At the conclusion of his speech, which was loudly applauded, the lecturer showed a number of slides which illustrated very vividly how through the medium of the League the different national societies are helping each other. Thus photographs of the recent earthquake in Italy showed not only the magnificent rescue work of the Italian Red Cross, but also the tents stocked with relief supplies from the American Society, while among pictures of typhus-stricken Poland were several of the sanitary column sent by the Swedish Red Cross.

TRANSIENT STRIKE AT CHEADLE ROYAL ASYLUM.—A satisfactory settlement has been reached in this dispute. On Dec. 16th the staff of the Cheadle Royal Asylum began a "stay-in" strike as a protest against the non-recognition of the National Asylum Workers' Union and the non-payment of ration money to the staff on days when they are off duty. Having regard to the risks to the patients if the ordinary form of strike was adopted, the Union decided that the staff should remain on duty and attend only to the welfare and safety of the patients, but not do other work. At the formation of the local branch of the National Asylum Workers' Union about five months ago the authorities were made conversant with the views of the staff as regards wages and conditions, but financial difficulties seem to have prevented a satisfactory settlement. The members of the staff are willing to work the usual number of hours per week, but insist on acceptance of their terms. The maximum weekly wage of a married male nurse is now £2 13s. with food while on duty. No other emoluments are provided. The dispute was referred to an official of the Ministry of Labour, on whose recommendation the Asylum Workers' Union will be recognised in future. All dismissals are to be cancelled and employees reinstated without loss of wages. The question of allowance in lieu of ration money was deferred for reconsideration in March in view of the financial position of the asylum, a loss of £2000 appearing on the year's working.

ROYAL ARMY SERVICE CORPS MEMORIAL FUND.—The general committee of the Fund is prepared to pay the cost, or part of the cost, of convalescent treatment for men who have served in the R.A.S.C. who are medically recommended for convalescent treatment and are unable to afford such treatment for themselves. Such cases should be brought to the notice of the honorary secretary of the Fund, Kensington Palace Barracks, London, W. 8.

ABERYSTWYTH DISTRICT MEDICAL OFFICERSHIP.—The Aberystwyth guardians on Dec. 20th considered the letter from the Ministry of Health refusing to sanction the payment of the salary to Dr. J. A. Rees, recently appointed medical officer for the Aberystwyth district. It was decided to refer the letter to Dr. Rees himself.

MANCHESTER MEDICAL SCHOOL DINNER.—The annual dinner, which has been in abeyance since 1912, was held in the Midland Hotel on Dec. 17th, Professor John Stopford in the chair. The guests were Sir William Thorburn, Professor E. S. Reynolds, members of the honorary staff of the Infirmary, and the external examiners present in Manchester for the December medical examinations.

MANCHESTER AND WOMEN DOCTORS AS RESIDENTS IN HOSPITALS.—Members of the Women Citizens League met at Withington recently and discussed the need for women on hospital boards and staffs. It was felt that female patients should have at least a chance of being attended by doctors of their own sex. Many hospitals admitted women residents, but there were some notable exceptions, one in Edinburgh, three in London, and three in Manchester—the Royal Infirmary, Ancoats Hospital, and Salford Royal Hospital. One speaker said she knew that many women with internal complaints went without treatment because they could not find a woman doctor.

LOCK HOSPITAL BECOMES ST. LUKE'S HOSPITAL.—At the annual meeting of the Manchester and Salford Lock Hospital attention was drawn to the fact that by the appointment to the staff of Dr. Elizabeth C. Boyd as assistant medical officer female patients may be treated by one of their own sex. A special afternoon and evening are now reserved for the treatment of women and children. The present hospital is unsuitable for the reception of female in-patients who have to remain for a length of time, and efforts are being made to secure a suitable residence in the suburbs. The name of the hospital was reported to deter would-be patients from attending. The Committee resolved that the name, in accordance with medical opinion, be changed to St. Luke's Hospital, and official sanction for the change will be sought from the Ministry of Health.

MENTAL AFTER-CARE ASSOCIATION.—This association was formed in 1879 with the object of facilitating the readmission into social life of poor persons discharged recovered, or on probation from mental hospitals. This is done by friendly visits, by boarding out the convalescents, when thought desirable, for a few weeks with families in the country, under proper care; by placing them in various institutions in London and other large towns until work can be found; by finding them suitable employment; and by giving them grants in kind or in money towards maintenance while seeking work, by providing clothing, by redeeming or procuring tools when occupation is found. The care and treatment of persons still suffering from mental disorder is beyond the scope of the association. A recent report of the Board of Control says that timely help and assistance on discharge are of the greatest benefit to patients whose circumstances are necessitous, and often do much to stave off a recurrence of the attack. The recovered persons annually discharged from mental hospitals in England and Wales number about 6000. They are of various callings and conditions in life, and not only find it difficult to obtain suitable work but usually conceal the fact of their mental disorder, and thus lose their situations when it becomes known. The association always informs the employers of the mental history of the patients. Convalescent treatment in suitable homes is needed in a large proportion of cases, who, although recovered mentally, are still in weak bodily health. Convalescent homes, with very few exceptions, refuse to receive such cases, so that but for this association these poor persons would be outcasts in this respect. Investigation of the circumstances of each case requires much correspondence and many visits, and often long journeys, entailing considerable expense, by ensuring the suitability of the work found and of the employers. Many distinguished alienists are included among the vice-presidents and council of the association. Over 800 cases were assisted in 1920, and the council appeal for help to enable them to deal with the large number of applications, especially from the "new poor." All communications should be addressed to the secretary, Miss Vickers, Church House, Westminster, London, S.W.

THE ONODI COLLECTION OF NASAL ANATOMY.—The appeal for donations to secure this collection is meeting with a satisfactory response. It now appears fairly certain that it will remain in this country lodged in the Royal College of Surgeons of England, where it will be available for all students in the kingdom. As we pointed out in our issue of Nov. 13th, this remarkable collection is of scientific interest and great practical utility, not only to rhinologists and otologists, but equally to ophthalmologists, dental surgeons, and general surgeons. A substantial sum is still required to prepare, mount, and catalogue the 700 specimens. The names of the subscribers will shortly be published, and those who have not already sent their donations are urged to communicate at once with the honorary secretary, Mr. Philip Franklin, 27, Wimpole-street, London, W.1.

WAR MEMORIAL IN SIR PATRICK DUN'S HOSPITAL.—The students or past students of Sir Patrick Dun's Hospital who served in the war numbered over 500. Many of them who were still unqualified when the war broke out joined one branch or another of the combatant forces and served with much distinction. Of the total roll nearly 30 lost their lives. To their memory their comrades who were more fortunate have erected a suitable memorial in their old hospital. A bed has been endowed by their contributions, with a brass tablet let into the wall at the head of the bed, and a beautiful cross has been erected in the hall of the hospital, commemorating the names of those who have fallen. The cross was unveiled last week jointly by Sir William Hickie, the distinguished soldier who commanded the 16th (Irish) Division in the war, and Sir Walter Buchanan, late of the Indian Medical Service, an old student of the hospital. The cross was then dedicated by the Rev. Harry Stewart, chaplain to the hospital, and brief addresses were delivered by Sir William Hickie, Sir Walter Buchanan, and the Lord Chancellor of Ireland. The whole ceremony was solemn and reverent.

ROYAL SUSSEX COUNTY HOSPITAL.—At a special court of governors of the Royal Sussex County Hospital held at Brighton on Dec. 10th the principle of making charges towards the cost of treatment both of in-patients and out-patients according to their means was unanimously agreed to. It was decided that no payment so made would be deemed to relieve a patient from the necessity of procuring a letter of recommendation or to give any rights to such patient to demand maintenance or treatment of any special kind or for any period. Mr. Ball Dodson, vice-chairman, said it was not the intention to turn the hospital into a place of business, but to enable the board to make charges for treatment to those patients who were able to pay. Ordinary patients would be asked to contribute only a part of the cost of their maintenance and treatment, but it would be possible for the board to charge for the actual cost of treatment. Mr. Barnett Marks expressed the opinion that the establishment of these charges would not interfere with subscriptions from the public. The court also gave unanimous approval to a provident scheme for hospital benefits and additional medical services—a scheme to enable people to pay in advance in small sums. Dr. J. F. Gordon Dill said the scheme had nothing whatever to do with the National Health Insurance, and would not provide the ordinary medical attendance to which members were entitled from the State or from local authorities. It was for the benefit of bona-fide residents of Sussex, irrespective of class or occupation. The facilities suggested included private consultations at any of the coöperating hospitals, dental treatment, X ray examinations at the Royal Sussex County Hospital, massage, electrical treatment, hospital treatment, and the benefit of all the resources of the Ralli Memorial Laboratory at the County Hospital. The governors were not unanimous on the third important subject before them, that the court approve the establishment of a special department for diseases of the ear, nose, and throat on the lines of the existing ophthalmic department, and in charge of a special medical officer, and that the necessary authority be given to appoint such special medical officer. Dr. Gordon Dill moved the resolution by general desire of the medical staff, and pointed out that in the out-patients' department patients were found suffering from some disorder with a complication affecting the throat, nose, or ear which required an expert opinion. The hospital had dispensed with a special medical officer for such disorders in the past because it was fortunate in having the services of a member of the staff of the Throat and Ear Hospital. That gentleman, however, had now left. Opposition to the scheme was directed on the ground of overlapping the work of the Throat and Ear Hospital and on the question of finance, and an amendment was moved that no special department be created, but that a specialist be appointed to attend to ear, nose, and throat cases. This amendment found only three supporters, and on assurances being given that the new department would not add greatly to the cost of the hospital the original proposal was carried by a considerable majority.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Pensions Assessment.

MUCH information has been elicited by question and answer in the House of Commons in regard to the granting and reviewing of disablement pensions. Mr. MACPHERSON, Minister of Pensions, stated that during the last three months (September to November) there have been 283,000 pension cases examined for reassessment. During the same period the number of cases whose assessment of disability was confirmed or altered as the result of medical examination was 268,900; of these, 124,500 were unaltered, 21,000 were raised, 105,800 were lowered, and 17,600 ceased. Of the last-named, 11,700 received gratuities. The reduction in the average degree of disablement by the above alterations was 5·7 per cent. The Royal Warrant makes obligatory a periodic review of temporary pensions, and provides for revision of any pension granted in error. Owing to the heavy pressure of work consequent on demobilisation a large number of provisional awards had been made on the report of a single medical officer; subsequent expert examination had revealed a number of incorrect decisions on entitlement which necessitated correction.

HOUSE OF COMMONS.

TUESDAY, DEC. 14TH.

Smoke and Noxious Vapours Abatement.

The Interim Report of the Departmental Committee on Smoke and Noxious Vapours Abatement has been brought to the notice of the Housing Commissioners, who have now been instructed to give careful consideration to proposals submitted, with a view to giving effect to its recommendations.

Housing Statistics.

In reply to a question Dr. ADDISON stated that on Dec. 1st, the latest date for which figures are available, 16,187 houses had been completed, of which 11,122 were provided by local authorities and public utility societies and 5065 under the private builders' subsidy scheme; 52,396 other houses were in various stages of construction by local authorities and public utility societies; and preliminary certificates had been issued in respect of a further 21,448 houses under the private builders' scheme. The total number of houses included in signed contracts on Dec. 11th by local authorities was 133,301. The capital cost of construction is defrayed from loans raised by local authorities and public utility societies. The Exchequer payments to date in aid of the annual deficits on local authorities' assisted housing schemes amount to £116,000. In addition £9000 has been paid to public utility societies. The amount of subsidy paid up to Dec. 10th under the private builders' scheme is £1,016,000.

Condensed Milk Standard.

Mr. GRATTAN DOYLE asked the Minister of Health if he would state what progress had been made for fixing a standard for condensed milk, whether sweetened, unsweetened, full cream, or skimmed; and what quantities of these condensed milks below the standards recognised by the industry in this country had been imported during the months of October and November, and from which countries.—Dr. ADDISON replied: I hope that the Draft Regulations which are being prepared on the subject of condensed milk will shortly be ready. I have no information as to the second part of the question.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon-Lieutenants to be Surgeon-Lieutenant Commanders: E. Heffernan and W. J. Morris.

ROYAL ARMY MEDICAL CORPS.

Major J. A. Clark to be temporary Lieutenant-Colonel whilst specially employed.

Major A. W. A. Irwin retires on retired pay.

S. Oliver, late temporary Captain, to be temporary Captain.

SPECIAL RESERVE OF OFFICERS.

Capt. W. Darling relinquishes his commission and is granted the rank of Major.

TERRITORIAL FORCE.

Capt. (Bt. Major) W. J. Wilson is restored to the establishment on ceasing to command Field Ambulance Section, Belfast University Contingent, Officers Training Corps.

Capt. S. Hughes relinquishes his commission on account of ill-health contracted on active service and retains the rank of Captain.

Capt. W. H. Rowell to be Major.

TERRITORIAL FORCE RESERVE.

Capt. (Bt. Major) W. J. Wilson, from General List, to be Captain (Bt. Major).

INDIA AND THE INDIAN MEDICAL SERVICE.

Major (retired list) C. H. L. Palk to be Lieutenant-Colonel (retired list).

The King has approved the retirement of Lieut.-Col. W. Lethbridge.

The King has also approved the grant of the rank of Captain to Ganesh Das Kapur and Gangandrum Venkataswamy Ram Mohan on relinquishing their temporary commissions in the Indian Medical Service.

Major C. H. L. Palk has been promoted Lieutenant-Colonel. Major F. Stevenson has been posted as Civil Surgeon, Dera Ismail Khan. Major R. B. B. Foster has been posted as Joint Civil Surgeon, Peshawar. Major I. M. Macrae, superintendent, Central Prison, on return from military duty has been posted to Bareilly. Major R. H. Lee afficiates as Agency Surgeon at Kotah and Jhalawar. Lieut.-Col. G. Fate is temporarily placed under the Government of the Punjab with effect from Sept. 25th. Major Murray, from Port Blair, has been permanently posted to the Punjab. Capt. W. D. Heyworth has been promoted Major. Lieut.-Col. G. Tate has been confirmed as Professor of Midwifery, Medical College, Lahore. Lieut.-Col. H. Austen Smith has been confirmed as Inspector-General, Civil Hospitals, Orissa and Behar. Lieut.-Col. R. McCarrison has been temporarily selected for duty under the Educational Department. Major F. H. Salisbury has been appointed to act as Superintendent of Dacca Central Jail during the absence on leave of Lieut-Col. E. R. Parry. Lieut.-Col. E. R. Parry, superintendent Dacca Central Jail, has been granted combined leave for eight months. Col. J. K. Close has been confirmed as Inspector-General of Civil Hospitals, United Provinces. Major W. Heathcock, civil surgeon, Fatehgar, has been granted privilege leave for five months. Dr. R. K. Tandon has been appointed Member of the United Provinces State Board of Medical Examinations, vice Dr. Rai Nohdedar Bahadur, deceased. Major P. B. Bhamcha has been promoted Lieutenant-Colonel. Lieut.-Col. B. Jiwan Singh retires from the Service. The following I.M.S. Political Department changes have been made. The appointment of Major A. Cameron as Residency Surgeon Gwalior is cancelled. Major J. Smalley has been posted temporarily as Residency Surgeon Gwalior. Lieut.-Col. W. M. Anderson, on reversion from military duty, is posted as Chief Medical Officer, North-West Frontier Provinces. Capt. S. Rao has been appointed Deputy Sanitary Commissioner, Assam. Major J. McPherson has been posted as Agency Surgeon, Eastern Rajputana, and Dr. J. R. Modi has been appointed Professor of Materia Medica and Medical Jurisprudence in the King George's Medical College, and will be in charge of the X ray department.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

BASDEN, MARGARET, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Honorary Obstetric Surgeon to the London (Female) Lock Hospital, with charge of the beds in the Maternity and Labour Wards and the Mental Defectives' Unit.

CARLYON, T. B., M.R.C.S., L.S.A., Surgeon and Agent (Admiralty) for Balham, Tooting, Wimbledon, Mitcham, Wandsworth, and Battersea Districts.

DUKES, C. E., M.D., D.P.H., Demonstrator in the Bacteriology (Public Health) Laboratory at University College.

FINIGAN, P. O'C., L.D.S. R.C.S. Eng., D.D.S., Dental Surgeon to the Male and Female Lock Hospitals.

HIRSCH, C. T. W., Captain, late R.A.M.C., Anæsthetist to the Dental Department of University College Hospital.

MILLER, J. W., M.D. Vict., D.P.H., Medical Officer of Health for Radnorshire.

SMITH, E. B., M.B., B.S. Lond., D.P.H., Assistant Medical Officer of Health, North East Essex United (Sanitary) Districts.

WILSON, A. C., M.R.C.S., L.R.C.P. Lond., Senior Assistant Medical Officer to Peckham House, and Member of Special Neurological Clinic, Ministry of Pensions.

Vacancies.

For further information refer to the advertisement columns.

Bath, Royal Mineral Water Hospital.—Res. M.O. £200.

Bath, Royal United Hospital.—H.S. and H.P. £150 each.

Birmingham General Hospital.—Res. Anæsth., H.P., and H.S. £100. Also H.S. for Skin and Venereal Depts. £125.

Bombay School of Tropical Medicine.—Tata Profs. of Clin. Med. and Therapy and Protozoology. 1500 to 3000 rupees a month.

Bradford Royal Infirmary.—Res. Surg. O. £250.

Bristol General Hospital.—Surgical Registrar.

Bristol Royal Infirmary.—H.S. £120.

Burnley, Victoria Hospital.—H.S. £250.

Canning Town Women's Settlement Hospital, Balaam-street, Plaistow, E.—Hon. Ophth. S.

Colonial Service.—M.O.'s for West African Medical Staff, Government Service in Malaya, East African Protectorates, West Indies (including British Guiana), Fiji, and the Western Pacific, &c.

Croydon County Borough.—Asst. M.O.H. £500.

Exeter, City of.—Asst. Tuberc. O. and Asst. M.O.H. £500.

Gateshead County Borough Mental Hospital, Stannington, Northumberland.—Asst. M.O. £400.

Glasgow, Woodilee Mental Hospital, Lenzie, near Glasgow.—Asst. M.O. £350.

Highgate Hospital, Dartmouth Park Hill, N.—Senior and Jun. Asst. Med. Supts. £300 and £275 respectively.

Hospital for Diseases of the Skin, 71, Blackfriars-road, S.E.—Clin. Asst.

Hospital for Sick Children, Great Ormond-street, W.C.—Cas. M.O. £400.

Hull Royal Infirmary.—Asst. H.S. £150.

King's College for Women, Household and Social Science Department, Campden Hill-road, W.—Asst. in Dept. of Hygiene and Bacteriology. £400–£500.

Kingston-upon-Hull, City and County.—Asst. Tuberc. O. £550.

Leicester Royal Infirmary.—Sen. H.S. £200.

London County Mental Hospital Service.—Sixth Asst. M.O. £300.

Manchester, Barnes Convalescent Hospital, Cheadle.—Res. M.O. £300.

Manchester Medical Mission.—Doctor. £54 12s.

Manchester Royal Infirmary.—Hon. Asst. S. H.S. to Special Departments. £50. Accident Room H.S. £200.

Metropolitan Hospital, Kingsland-road, E.—Asst. S.

Middlesex Hospital, W.—Cas. M.O. £104.

Ministry of Agriculture and Fisheries, Whitehall-place, S.W.—Probationer Naturalists. £300.

Ministry of Pensions, 5, Millbank, S.W.—Jun. M.O.'s. £350.

Newark Hospital and Dispensary.—Res. H.S. £200.

Newcastle-upon-Tyne, City Hospital for Infectious Diseases, Walker Gate.—Res. Med. Asst. £350.

Newcastle-upon-Tyne Hospital for Sick Children.—Jun. Res. M.O. £200.

Nottingham City Asylum.—Second Asst. M.O. £400.

Oxfordshire Education Committee.—Sch. Dent. £450.

Prince of Wales's General Hospital, Tottenham, N.—Hon. Asst. Ophth. S.

Royal London Ophthalmic Hospital, City-road, E.C.—Asst. S.

St. Thomas's Hospital Clinical Medical Unit.—Sen. Asst. and Jun. Asst. £600 and £450 respectively.

Seamen's Hospital Society, Dreadnought Hospital, Greenwich.—P. Also Anæsth. 50 gs.

Sheffield Royal Hospital.—Asst. Cas. O. £150.

Sheffield Royal Infirmary.—Surg. Registrar. £150.

University College Hospital.—M.O. £250.

Wilts County Council.—Female Asst. County M.O.H. and Asst. Sch. Med, Inspec. £600.

Wolverhampton and Staffordshire General Hospital.—Res. Surg. O. £300.

Births, Marriages, and Deaths.

BIRTHS.

ALLFREY.—On Dec. 11th, at Froxfield, Southwick, Sussex, the wife of Frederic Henry Allfrey, M.B., B.C. Cantab., late R.A.M.C., of a son.

CATHCART.—On Dec. 18th, the wife of Major G. E. Cathcart, R.A.M.C., of a daughter.

CRIPPS.—On Dec. 14th, at Albany-street, N.W., the wife of W. Lawrence Cripps, F.R.C.S., of a daughter.

MELLER.—On Dec. 15th, at Wentworth House, Wickham, Hants, the wife of R. W. Meller, M.R.C.S., L.R.C.P., D.P.H., of a son.

PHILLIPS.—On Dec. 2nd, 1920, at 4, Marlborough-road, Bradford, the wife of James Phillips, F.R.C.S.E., of a daughter.

THACKER-NEVILLE.—On Oct. 28th, at Moukden, Manchuria, North China, the wife of W. S. Thacker-Neville, M.D. T.C.D., F.R.C.S.E., of a son.

MARRIAGES.

SKIRVING—HEUGH.—On Dec. 17th, at Christ Church, Edinburgh, Archibald A. Scot Skirving, C.M.G., F.R.C.S. Edin., to Georgina Sally, only daughter of the late Hugh Heugh, Edinburgh, and granddaughter of the late Sir George Deas, Senator of the College of Justice.

DEATHS.

MARSDEN.—On Dec. 19th, at St. Thomas's Hospital, London, Walter Gibson Marsden, M.B., B.Ch., late Captain, R.A.M.C.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.

WEDNESDAY, Dec. 29th.—10 A.M., Dr. A. Saunders: Medical Diseases of Children. 2 P.M., Dr. Owen: Medical Out-patients. Mr. D. Armour: Visit to Surgical Wards. Dr. Morton: X Ray Department.

THURSDAY.—2 P.M., Dr. G. Stewart: Medical Out-patients. Mr. MacDonald: Surgical Out-patients. Mr. Baldwin: Orthopædic Department. Mr. B. Harman: Eye Department.

FRIDAY.—10 A.M., Dr. McDougal: Electrical Department. 2 P.M., Dr. Burnford: Medical Out-patients. Mr. T. Gray: Surgical Out-patients. Mr. Banks Davis: Diseases of the Throat, Nose, and Ear.

SATURDAY.—10 A.M., Dr. A. Saunders: Medical Diseases of Children. 2 P.M., Dr. Owen: Medical Out-patients. Mr. Sinclair: Surgical Out-patients.

Daily:—10 A.M. Ward Visits. 2 P.M., In-patient, Out-patient Clinics and Operations.

BOOKS, ETC., RECEIVED.

BALE, JOHN, SONS, AND DANIELSSON, London.
The Medical Examination of Airmen: A Practical Guide for Use in the Examination of Members of the Air Service and its Recruits. By Dr. Maublanc and Dr. Ratié. With Preface by Prof. A. Broca and an Introduction to English Readers by Wing-Commander Martin Flack, C.B.E. Translated from the French by N. Ball, late R.A.M.C. Pp. 5s.

CASSELL AND CO., London.
Prevention of Malaria. By J. J. Hickey, M.B. Pp. 20. 1s.

CHURCHILL, J. AND A., London.
The Diseases of Children. By the late Sir James Frederic Goodhart, M.D. 11th ed. Edited by G. F. Still, M.D. Pp. 942. 32s.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.
The Croonian Lectures on Psychology of the Special Senses and their Functional Disorders (June, 1920). By A. F. Hurst, M.D. Pp. 123. 12s. 6d.
Surgical Aspects of Dysentery, including Liver Abscess. By Zachary Cope. F.R.C.S. Eng. Pp. 157. 12s. 6d.

LEWIS, H. K., AND CO., London.
Diseases of the Skin. By J. M. H. Macleod, M.D. Pp. 1307. £3 10s.
Pocket Dictionary. By G. M. Gould, M.D. 8th ed., revised. Pp. 1016. 9s.

LONGMANS, GREEN, AND CO., London.
A System of Physical Chemistry. By Prof. W. C. McC. Lewis. Vol. II., Thermodynamics. 3rd ed. Pp. 454. 15s.
Recent Advances in Organic Chemistry. By Prof. A. W. Stewart. With an Introduction by Prof. J. Norman Collie. 4th ed. Pp. 359. 21s.

MALOINE, A., ET FILS, Paris.
Traité Pratique de Sérologie et de Sérodiagnostic. Par M. Rubinstein. Pp. 414. Fr.22.

MOULTON, W. T., AND CO., Brighton.
Angina Pectoris. By Walter Verdon, F.R.C.S. Pp. 414. 18s. 6d.

G. P. PUTNAM'S SONS, London and New York.
A Short History of Nursing from the Earliest Times to the Present Day. By Lavina L. Dock, R.N., in collaboration with J. M. Stewart, A.M.R.N. Pp. 392. 17s. 6d.

SCIENTIFIC PRESS, LTD., London.
Atlas of the Sensory Cutaneous Nerves. By W. Ibbotson, M.R.C.S., L.R.C.P. Pp. 25. 7s. 6d.

THACKER, SPINK, AND CO., Calcutta and Simla.
Practical Bazaar Medicines. By G. T. Birdwood, Lt.-Col., I.M.S. Pp. 179. R.3/8.

UNIVERSITY PRESS, Cambridge.
The Origin of Man and of his Superstitions. By C. Read, M.A. Pp. 350. 18s.

URBAN AND SCHWARZENBERG, Berlin and Vienna.
Die Lungentuberkulose. Von Prof. Dr. F. Klemperer. Pp. 164. M.40.

Communications, Letters, &c., to the Editor have been received from—

A.—Actors' Orphanage, Lond.; Mr. T. W. Alsop, Lond.; Messrs. Allen and Hanburys, Lond.
B.—Dr. E. F. Buzzard, Lond.; Dr. C. Buttar, Lond.; Mr. W. G. Ball, Lond.; Dr. C. J. B. Buchan, Lond.; Dr. G. Blacker, Lond.; Mr. H. W. Bayly, Lond.
C.—Prof. E. L. Collis, Cardiff; Dr. A. E. Carver, Birmingham; Chelsea Hospital for Women, Lond.; Mr. T. Caldwell, Brighton.
D.—Messrs. Down Bros., Lond.; Dr. T. B. Davies, Lond.
E.—Dr. J. R. Earp, Geneva; Mr. A. W. N. Evans, Abergavenny; English Medico in India.
F.—Dr. J. M. Fortescue-Brickdale, Clifton; Mr. D. C. L. Fitzwilliams, Lond.; Dr. G. V. Frye, Almore, Alabama.
G.—Prof. E. E. Glynn, Geneva; Sir P. Gibbs, Lond.; General Medical Council, Lond., Registrar of; Dr. P. Gully, Leysin; Dr. L. Grant, Johnstone.
H.—Mr. J. R. Hill, Edinburgh; Mr. E. S. Hatch, New York; Dr. J. Haddon, Denholm.
I.—India Office, Lond.; Illuminating Engineering Society, Lond.; Mr. R. B. Ince, Jarvis Brook.
K.—Dr. E. F. Kerby, Lond.; Dr. H. Kenwood, Lond.; Mr. P. E. Kingsford, Lincoln.
L.—Mr. E. M. Little, Lond.; Dr. W. Langdon-Brown, Lond.; Dr. E. C. Lowe, Southport; Liverpool Medical Institution.
M.—Dr. F. H. McMechan, Avon Lake, Ohio; Mr. E. W. Morris, Lond.; Mental After-care Association, Lond., Sec. of; Medical Research Council, Lond.. Asst. Sec. of; Ministry of Health, Lond.; Ministry of Pensions, Lond.
O.—Mr. W. H. Ogilvie, Lond.; Mr. C. W. O'Donoghue, Lond.
P.—Professional and Business Women's Hospital League, Lond.; Panel Committee for the County of London.
R.—Royal Sanitary Institute, Lond.; Royal Academy of Medicine in Ireland, Dublin; Royal College of Physicians of Ireland, Dublin, Registrar of; Dr. J. D. Rolleston, Lond.; Royal Army Service Corps Memorial Fund, Lond.; Royal Institution of Great Britain, Lond.; Dr. W. C. Rivers, Worsboro' Dale.
S.—Dr. H. Sainsbury, Lond.; Dr. A. W. Stott, Lond.; Save the Children Fund, Lond.; Dr. T. H. G. Shore, Lond.; School of Physic in Ireland, Dublin, Registrar of; *Sea-Pie*, Lond., Publisher of; Prof. W. Stirling, Manchester.
T.—Dr. W. W. C. Topley, Lond.; Mr. S. R. Tattersall, Lancaster; Dr. G. L. Thornton, Exmouth.
U.—University of Edinburgh; University of Liverpool, Registrar of.
V.—Mr. M. E. Vlasto, Lond.; Dr. H. W. Verdon, Brighton.
W.—Dr. B. Watson, Harrogate; Dr. C. M. Wilson, Lond.; Mrs. M. C. D. Walters, Lond.; Dr. J. D. Wynne, Norwich; Dr. C. H. Warner, Nottingham; Mr. C. Wray, Lond.; Dr. J. Watt, Sutton; Dr. F. J. Waldo, Lond.

Communications relating to the editorial business should be addressed exclusively to the Editor of THE LANCET, 423, Strand, London, W.C. 2.

Notes, Short Comments, and Answers to Correspondents.

INVISIBLE CHRISTMAS GUESTS.

To the Editor of THE LANCET.

SIR,—May I draw the attention of your readers to an appeal issued by Mr. Herbert Hoover to the American public to entertain an invisible guest at Christmas? The proposal is that every family table should have an empty chair and plate at the Christmas dinner and devote the money it would cost to feed the invisible guest, for the benefit of the suffering children in the starvation areas of the Continent.

This truly inspired idea is one which, I am sure, will be adopted either actually or in spirit, by thousands of families throughout the United Kingdom. When we realise that 2s. in the hands of the Save the Children Fund will keep a child alive for a week, surely none of us can harden his heart to refuse to help? I shall be only too glad to send to any of your readers a collecting-box or card, and in the name of the 13,000,000 little ones who, at this season of joy and peace and goodwill, are a prey to starvation and disease and death, I confidently hope for a hearty response from every Christmas table in the country.

I am, Sir, yours faithfully,
WEARDALE,
Chairman.

Save the Children Fund, 26, Golden-square, W. 1, Dec. 13th, 1920.

WAITING LISTS AT PENSIONS HOSPITALS.

AT a recent conference of the Lancashire and Cheshire Discharged Sailors' and Soldiers' Association a statement gained currency that 7000 men in the area were slowly dying while awaiting hospital treatment because there were no beds. The Minister of Pensions has issued a categorical denial, intimating that the waiting list for beds in the North-Western region (which comprises the counties of Lancashire, Cheshire, Westmorland, and the Isle of Man) has never at any one time exceeded 1544. At the present time only 600 cases are on the waiting list, 330 being neurasthenic. As regards the other types of case, the majority will in the ordinary course be admitted within a few days, as the total number is little in excess of the hospital vacancies arising during such a period. The average time of waiting for in-patient treatment in the Ministry of Pensions hospitals does not exceed a fortnight, special arrangements being made to accommodate urgent cases without delay. As regards neurasthenic cases there has been difficulty owing to a shortage of skilled neurologists. A new hospital for the treatment of neurasthenics is shortly to be opened at Moseley Hill.

THE HEALTH OF THE NAVY IN 1914.

THE war is responsible for the delay in the appearance of the statistical report of the health of the navy for 1914. Sir Robert Hill, the Director-General, is to be congratulated on the patience of his department, which has now brought it out, so that the very valuable series of these navy health reports may not be broken. This number is mainly statistical, with little explanatory comment. There are no original papers; these now appear in the Journal of the Naval Medical Department. The figures show distinct improvement in the health of the Service, although in the last five months of 1914 the war enormously increased the death-rate, which rose from 3·2 per 1000 in 1913 to 37·8; but the invaliding and case-rates were lower, and the average loss of service per person is 7·3 days, 2 days less than the average for the preceding five years.

Division of Naval Forces.

The naval forces, as arranged in the tables, fall naturally into three great groups: the Home Fleet, 88,240 men; the Fleets abroad, 30,260 men; and the Home Station, 39,800 men; comprising the "total force" of 158,300. In spite of a note on p. 171, it appears that the Marine Headquarters, 8547 men, and the Royal Naval Divisions and camps, are not included in the statistics of illness of the total forces. The highest proportion of sickness is shown by the Home Station. An excess of sickness is to be expected in this group as it contains both extremes of naval life; at one end, boys and other recruits, at the other, older men just about to take their pensions and consequently not being sent abroad. The Fleets abroad show a lighter morbidity, while the Home Fleet in the North Sea is the healthiest of all, with only 18 per 1000 sick daily. Thus it becomes evident that service at sea is not in itself unhealthy. The death-rate from disease, however, increased slightly in 1914, but the death-rate from injuries, including wounds in action, increased from 0·94, the average of the preceding five years,

to 35·15, a melancholy reminder of the 4460 of our sailors killed or drowned in action; 1524 were lost with *Aboukir*, *Hogue*, and *Cressy*, and 1663 at Coronel with *Good Hope* and *Monmouth*; on the other hand, in the avenging battle of the Falkland Islands, the losses were 3 killed, 7 died of wounds, and 17 wounded. The sick-rates spoken of above are all crude sick-rates, uncorrected for age-distribution, for there is no longer in this Blue-book any statement of sickness by age-groups.

Proportional Incidence of Disease in the Royal Navy for 1914.

—		*A* Training estab.	*B* Home Fleet.	*C* Fleets abroad	*D* Home Station	*E* Total force.	*F* Marine hq.
Number in group		4146	88,240	30,260	39,800	158,300	8547
Number of cases		906	540	682	627	587	724
Invalids...	per 1000 men	17·5	11·7	14·6	20·4	12·9	20
Deaths ...	per 1000 men	7·0	44·7	61·8	4·9	37·8	4
Sick daily	per 1000 men	15·3	18·0	21·9	24·28	23·8	—
Each man's loss of service in days		13·4	6·6	8·0	8·7	7·4	—
Cases per 1000 men.	Pneumonia ...	24·3	2·9	2·4	9·0	4·3	—
	Tubercle ...	—	2·1	2·2	2·1	2·1	—
	Catarrh, sore-throat, tonsillitis'... ...	205*	83·0	77·0	149·0	99·0	—
	Rheumatic fever	33·7	6·0	4·3	7·6	6·1	—
	Enteric fever	—	0·6	2·2	0·9	1·0	—
	Appendicitis	—	2·2	2·1	1·6	2·1	—
	Venereal disease ...	—	69·0	84·0	73·0	73·1	—
	New cases Chancre	—	9·7	15·0	12·0	11·5	—
	New cases Syphilis (1)	—	6·0	4·3	5·0	5·3	—
	New cases Gonorrhœa	—	33·0	49·0	32·0	35·8	—
	Scabies	—	17·0	5·8	32·0	19·0	—

Column *A* is included in Column *B*. Column *E* is the sum of Columns *B*, *C*, and *D*. Column *F* is not included in Column *E*.
* 205 cases of sore-throat and tonsillitis; catarrh, number unstated, probably another 200.

Marked Diminution of Illness.

Whether it is to be attributed to the war, to the advancement of medical science, or to the increasing skill of the medical officers of the navy, a very great diminution in illness occurred in 1914. The numbers who refused operation, too, were proportionately decreasing, which suggests increasing confidence of the sailors in the officers of the Naval Medical Department. Concerning the statistics of the different diseases, there were fewer cases this year of infectious disease. This was probably a result of the war, which diminished leave, and gave the men fewer opportunities for picking up these diseases. Per 1000 of strength cases of "other infectious diseases" (measles, scarlet fever, &c.) fell from 23 in 1913 to 14. Pneumonia, that delicate test of hygienic conditions, had decreased only slightly in the total force, but had been reduced in the very susceptible training ships by 30 per cent.; in one of them, *Ganges*, from 28 to 17 per 1000, partly perhaps for the reason put forward by her medical officer, "the more stringent regulations with regard to boys lying on the damp grass," though Deputy Surgeon-General C. J. Mansfield was on safer ground when he ascribed the high rate in August in Chatham Naval Barracks to the large influx of men following general mobilisation. Doubtless there was for a little while some overcrowding. The pneumonia-rate in the large depôts rose from 7 per 1000 in 1913 to 10 in 1914. There were 8 cases of malaria per 1000, the rate being doubled. Tuberculosis 336 (2·12) cases, 269 (1·69) invalidings, and 42 (1·69) deaths shows a slight increase. We regret to notice that the sick berth staff again manifested a special liability; the general risk being 2 per 1000, the sick berth staff attack-rate was 5·9, this, however, being better than 8·1 in 1913. In each year they had 12 cases. Venereal cases decreased from 93 to 73 and fresh infections from 68 to 52 per 1000. The case-rate is higher abroad than on the Home Station or in the Home Fleet, China having the evil pre-eminence. Of 100 fresh cases in the total force 22 were soft chancres, 10 primary syphilis, and 68 gonorrhœa. The 2943 cases of scabies cost nearly as much loss of service as the 690 of pneumonia. Two deaths occurred under ether anæsthesia, one under chloroform, but the number of administrations of each are unstated. Malignant new growths were more numerous, probably because older men had returned to the Service as reservists, but the figures of illness at various ages are no longer published. Amongst diseases of the respiratory system are 8132 cases of catarrh, and amongst those of the digestive system are 7691 of sore-throat and tonsillitis. Current clinical pathology considers these as closely allied general infections; might they not be totalled together and given a line amongst the general diseases with, but after, pneumonia? It seems quite likely that they are apt to occur in greater number, one or other of them, in ships that are overcrowded or less well ventilated. The care of the men's teeth is showing effect; only 13 were invalided in 1914 for dental disease. There were 50 deaths from digestive disorder, 15 from perforating gastric, and 7 from duodenal ulcer. Appendicitis occurred in 330 cases, being more frequent (2·3) in service afloat than on the Home Station (1·6). There were 403 cases of non-venereal bubo, most prevalent on the West Atlantic Station, where venereal disease was low, but high in the East Indies and in China, where venereal disease was frequent. Its name would therefore appear to be justified. Nephritis (1·7) has very slightly increased, but skin diseases are lessened. Apart from injuries, it was pneumonia that caused most deaths, 83 (0·52), then diseases of the digestive system, 50 (0·31), and diseases of the circulatory system, 45 (0·28), 29 from valvular disease, and 15 from aneurysm.

Some Omissions.—Conclusion.

Still some further interesting information might have been given. There are 162 cases of enteric fever with 34 deaths. *Formidable* had several cases in each of the past two years, but one only in 1914, a carrier having been found; but who he was and how found we are not told, though these facts would have been instructive to all who have to do with ships. The report is valuable as a record of health in an exciting year. We regret that the health statistics of the cadets at Osborne and Dartmouth, about which there has at times been discussion, are not included. As already stated, the sick-rates given are all crude sick-rates; there is no longer any statement of sickness by age-groups.

The lesson of the report as a whole is that the country may congratulate itself on the care that is being taken to safeguard the health of its sailors.

PUBLIC HEALTH IN THE UNITED PROVINCES, 1919.

OWING to a revision of boundaries in the Meerut and Benares districts some 28,500 of the population of the United Provinces[1] of Agra and Oudh have been transferred to the Delhi province and Benares State. The figures of the 1911 census have accordingly been modified, and the statistics calculated on an average population (for 1919) of 46,814,715. The birth-rate for the whole province was 32·39 per 1000, compared with 43·49, the average for the quinquennium 1914–18. This ratio is lower than any previously recorded except that of the famine year 1897, when it was 31·10. It is ascribed to the high death-rate of 1918, unusually bad economic conditions, and absence from home of a large number of men on military duty. The small district of Dehra Dun had the lowest ratio (19·77), the adjoining district of Saharanpur had one of the highest (36·05), Agra, with 39·48 per 1000, standing at the head of the list. The general death-rate (41·69) was exceeded only by Assam (50·09), Central Provinces (43·24) and Delhi (42·00), but was less than the quinquennial average (42·66) and little more than half that of the preceding year (82·37). The infantile mortality ratio (253·3) was lower than in 1918 (303·5) but higher than in any other year since 1908, when it was 345·1 per 1000. 20 per cent. of this mortality was due to tetanus. Great efforts are being made to improve the midwifery service by the training of native midwives, instruction of mothers, establishment of municipal dairies, and free distribution of quinine. With such variations in the infantile death-rate as are shown by the returns of 501 per 1000 births at Jalesar (near Agra) and 497 at Cawnpore, as compared with Ballia, near Benares (165), and Kairana, near Meerut (181), it is evident that the excessive mortality is neither due to climatic nor to unavoidable causes. The deaths returned under the heading of fevers numbered 1,575,632, being in a ratio of 33·66 per 1000 of the population, higher than the quinquennial average (31·99), but less than half that of the preceding year (68·72). Influenza was the chief cause. In January 323,988 deaths were registered as "fevers," in August only 82,882. Municipal sanitation is advancing, but slowly. Benares, with 30,277 occupied houses, has now 9717 connected with the sewerage system and 5873 connected with surface drains; a complete sewerage system for Cawnpore has been finally sanctioned. Major C. L. Dunn, I.M.S., the Sanitary Commissioner, notes that at Muttra the high caste Hindus are leaving off drinking the Jumna water and taking the piped supply; this may have very widespread and important effects. Various improvements in water-supply and drainage in many districts and towns are shortly described by Mr. G. McC. Hoey, sanitary engineer to the Government, who makes it

[1] Report of Sanitary Commissioner of the United Provinces of Agra and Oudh for 1919, and Report of Sanitary Engineer for year ending March 31st, 1920. Allahabad, 1920.

quite clear that an increase of staff is necessary to carry out satisfactorily the ever-increasing duties of this department.

Work in the Civil Hospitals and Dispensaries.

The work carried out in the civil hospitals and dispensaries of these provinces is reported on triennially.[2] On Jan. 1st, 1917, there were 640 hospitals and dispensaries of all classes, and on Dec. 31st, 1919, there were 647, 22 having been opened and 15 closed. The number of patients treated increased from 5,352,318 in 1917 to 5,380,877 in 1919; of these patients 361,556 in 1917 and 445,873 in 1919 were treated at "travelling dispensaries," the remainder attending at the "standing dispensaries," which would appear to be more appropriately styled "hospitals," as they accommodate indoor patients. It is very satisfactory to learn that these latter are steadily increasing in popularity, though this is only what might be expected. The Agra Medical School maintains its activity and popularity. In 1918–19 the students numbered 608, of whom 59 were women. The percentage of successes in the final examination was very satisfactory for the male candidates (86·75 per cent.); and of the female candidates seven passed out of 11. It is intended to reorganise the school so as to extend the course of study to five years, and confer a higher qualification than the present L.M.P. diploma. The training of native midwives, called "dais," is carried out at Agra, Lucknow, Cawnpore, Allahabad, Benares, Fyzabad, and Bareilly, where there are local committees at each place, also a maternity supervisor, the expenses being met by grants from the local government. The period of training is one year, followed by an examination, success at which earns a diploma and registration as midwife. Much good work is done in the provincial asylums, of which there are 14 for the blind, 14 for lepers, and 17 for the poor. At the end of 1919 there were 308 lepers in these institutions, compared with 909 at the end of 1916; the question of amending the Leper Act in order to provide wider segregation is under consideration. Colonel J. K. Close, I.M.S., who succeeded Colonel C. Mactaggart in September, 1919, in concluding his report, refers to the difficulties met with in carrying on medical administration owing to war conditions; 308 officers were surrendered or deputed to military duty up to the end of 1919, of whom only 69 had returned to civil employ at the end of May, 1920. In spite of this "very serious handicap" a "fairly efficient medical establishment" has been maintained.

The Chemical Examiner's Report.

The report of the Chemical Examiner[3] for the United Provinces and Central Provinces (1919) occupies only two pages, but with the accompanying tables indicates the variety and importance of the work carried on in the Agra laboratory by Dr. E. H. Hankin. The total numbers of cases reported on (1073), as well as of the articles examined (1755), show a considerable decrease compared with previous years, but the medico-legal cases (588) were more numerous than in 1917 and 1918, when they totalled 561 and 497. Besides the chemical and medico-legal analyses, colony counting and tests for bile-salt media microbes in water from municipal waterworks were carried out in 1497 samples. The importance of this in relation to the public health, and the especial value of Dr. Hankin's researches during the last 20 years, can hardly be over-estimated. Mention is made of an interesting medico-legal case, in which strychnine was accidentally administered (probably in a 10-gr. dose) to seven or eight persons. The viscera of seven were examined, strychine was detected in six by chemical analysis, and in the seventh case a strong presumption of its presence was obtained by a physiological test; the strychnine and quinine were contained in bottles, labelled respectively hydrochloride of strychnine and hydrochloride of quinine; they were of similar size, shape, design, and colour of wrapper and label, and happened to be put in the same place. One other person, who took the dose, is said to have had vomiting and blistering of the lips, and to have recovered.

Vital Statistics of the Jails.

The vital statistics of the jails[4] in these provinces were satisfactory, as compared with those of the previous year. The admissions to hospital and average daily sick were 509·5 and 20·8 per 1000, as compared with 675·7 and 25·6 in 1918; and the death-rate 24·4, compared with 46·0. The high ratios in 1918 were due to the epidemic of influenza. Among the larger jails the admissions to hospital were as high as 931·5 per 1000 at Allahabad Central Prison, while at Lucknow the ratio was only 358·4; the mortality, however, was 46·3 at Lucknow and only 26·1 at Allahabad. Pneumonia caused 3·9 deaths per 1000, and dysentery 3·6; from malaria there were only 1·3 and from cholera only 0·6 per 1000. The general condition of the jails continues to be satisfactory, although there was some overcrowding in almost all of them, which rendered complete segregation of habitual from casual prisoners a mattor of some difficulty. The excellent work carried on by Rai Bahadur Mithan Lal at the Bareilly Juvenile Jail has been previously alluded to in these columns, and has been recognised by Government by the presentation to him of a gold watch. The daily average number in this jail was 241 the average sick-rate per 1000, 15·4, and the death-rate 8·2. Lieutenant-Colonel J. M. Woolley, I.M.S., who presents this report, remarks that "every person who visits this institution is struck with the high standard of discipline maintained, with the thoroughness of the training, and especially with the care that is taken in regard to the moral and religious education of the boys."

[2] Triennial Report of Civil Hospitals and Dispensaries of the United Provinces for 1917-1919. Allahabad, 1920.

[3] Annual Report for 1919. Allahabad, 1920.

[4] Annual Report on the Jails in the United Provinces for 1919. Allahabad, 1920.

TROPICAL FRUIT FOODS.

A RECENT paper,[1] entitled "Some Important Tropical Fruit Foods," by Mr. G. C. Dudgeon, C.B.E., Vice-President of the International Association of Tropical Agriculture, is of considerable interest, being based upon personal observation and experience and reinforced by records of other workers. The fruits dealt with are notably the banana, plantain, and date, one or other of which forms the staple and habitual diet of a vast number of people indigenous to the tropics.

The Banana and Plantain.

The banana and plantain both belong to the genus *Musa* (subgenus *Eumusa*), which provides numerous varieties. Of these *M. sapientum* and its subspecies *paradisiaca* were traced from their original habitat in the Indo-Malayan region to their distribution in all parts of the tropics of the two hemispheres. According to Sir Harry Johnston, the subspecies or plantain—characterised chiefly by its larger size and the small proportion of sugar contained in its fruit pulp—reached the African negro from some of its earliest cultivators, the ancient Egyptians; in this way the plantain spread to most of the inhabited regions of tropical Africa. The banana, or saccharine form of *M. sapientum*, was introduced at a much more recent date and is often confused in India and Europe with the plantain. The latter has long formed the main food of the forest native in many parts of Africa; the war-like Ashanti, for instance, either cooked it with palm oil, supplemented by a few wild herbs, or dried it for storage. In the dried state the plantain is white and brittle, easily ground up and made into balls, which are called "fufu." Both banana and plantain are also much used in tropical parts of America and the West Indies, sometimes even taking the place of cereal grains as common articles of diet. An analysis of banana-flour has shown it to be rich in carbohydrates and mineral matter and poor in protein as compared with wheat, approximating to rice-flour in nutritious value, but apparently having greater advantage owing to its higher digestibility; it is stated to be more suitable for the support of the laborious negro. It has been claimed, as a result of recent investigations, that the banana is deficient in protein and water-soluble vitamine, and the suggestion has been made that a more complete food could be obtained by its admixture with milk in proper proportions. Experience has proved that the effect of cooking both banana and plantain is to produce food far more valuable and digestible than that afforded by the fruits in an uncooked state. From the economic point of view Mr. Dudgeon regarded these fruits as of considerable importance, the banana being one of the most productive plants in the world, yielding well over a hundredfold as much food as wheat and nearly fiftyfold as much as potatoes when planted over areas of the same size. It has earned the approbation of Sir James Crichton Browne as a substantial addition[2] to our food-supply by importation to England. In the tropics, more particularly of recent years, cultivation of maize, millet, cassava, and yam have supplemented the use of the plantain and banana as native foods.

The Date and its Comparative Food Value.

In this respect the date-palm (*Phœnix dactylifera*), which Mr. Dudgeon went on to discuss, commands a relatively different position, in that, among nomadic tribes of the arid tracts of Asia and Africa, its dried fruit constitutes their almost entire subsistence, practically no other vegetable or animal food being available. The dried date, possessing nourishment of the most digestible kind, has enabled the Arab of Western Asia and North Africa, as well as the Persian, on his daily ration of 2 lb., not only to subsist but to maintain activity for long periods without any other food. This amount (2 lb.) has been estimated to furnish a caloric

[1] Read at a meeting of the Royal Society of Tropical Medicine and Hygiene on Nov. 20th.

[2] In comparing the food value of the banana with that of cereals it must of course be borne in mind that the banana contains 75 per cent. water, whilst wheat and rice are, practically speaking, water-free.—ED. L.

value of 2550 (i.e., well below the requirements of a man employed even on light labour in our home prisons, as fixed by the special W.O. Committee, 1907). But for the existence of the date-palm much of the world's history would have been very different, for it has rendered possible the migration of peoples across wide expanses of desert. In the Western Soudan the dietary is supplemented by ground nuts, millet, and kola nut, and among Bedouins by goat's or camel's milk and occasionally the flesh of these animals.

A comparison of the analyses of banana-flour and dried dates, as quoted by Mr. Dudgeon, showed the date to contain 10 per cent. less carbohydrate and 2 per cent. less protein, but 2 per cent. more fat and 10 per cent. additional fibre. These differences may account for the contrasts in physique and development of the races subsisting on the two forms of food, the banana and plantain being responsible for the more robust and better-nourished negro, and the date for much of the poor growth and withered appearance of those Arab tribes which make of it their sole article of diet.

Other Tropical Fruit Foods and Drinks.

Reference was made to palm wine, the intoxicating product of the flowering spike of the date-palm and to the fatal effect on the tree of its extraction; also to the mashed date or "Agwa," whose uncleanly preparation is not only revolting but a very possible source of disease to the consumer. Mr. Dudgeon also alluded briefly to such supplementary fruit foods as the bread fruit (*Artocarpus*), the papaw (*Carica papaya*), the coco-nut (*Cocos nucifera*), and the Avocado pear (*Persea gratissima*)—the last-named prominent for its high nutritive value. To these might be added, among the products of West Africa, the ground nut, maize, millet, cassava, and yam, and, less commonly as adjuncts to the native dietary, the small wild potato of delicious flavour, and the wild cucumber.

Discussion.

In the discussion following the paper both the President (Professor W. J. R. Simpson) and Dr. D. E. Anderson strongly advocated the more extensive importation of tropical fruits, including the less known varieties—e.g., mango and guava—for home consumption from the West Indies, Mauritius, Seychelles, and elsewhere. Dr. Andrew Balfour described the very palatable form of the preserved crystallised banana, known as the banana fig, as deserving wider recognition by reason of its suitability for export from East Africa. The banana as sold in England was commonly eaten in an unripe and therefore indigestible state. He referred to the successful use made of banana-flour in place of wheat-flour in the preparation of bread during the war, and praised the high nutritive value of the Avocado pear on account of its available fat. Major E. Black, R.A.M.C., spoke highly of the papaw fruit and the potency of its digestive juices, well known as the ferment papain, in aiding the assimilation of excess protein. He claimed, as the result of his experience of its value in the tropics, that the introduction of the use of the papaw at home would prevent much intestinal disorder in adults, and also maldevelopment of children, due to the harmful effect of amino-bodies and other waste products of an excessive proteid diet.

REFERENCE BOOKS TO HOSPITALS AND CHARITIES.

AT a time when the financial aspect of all branches of voluntary and charitable work is very threatening, exact knowledge of the function and scope of all such work is more than ever necessary. On another page we record the allocation of £200,000 by King Edward's Hospital Fund for London to various hospitals and convalescent homes, and careful readers will do well to assure themselves of the objects of some at least of the institutions which the Fund proposes to benefit. In this they will receive great help from two trusty books of reference which have just appeared in their annual revision.

Burdett's Hospitals and Charities (London: The Scientific Press, Ltd. Pp. 1090. 17*s.* 6*d.*), since its publication in 1889, is issued for the first time without the name of its founder, the late Sir Henry Burdett, appearing on the title page as editor. The year-book, which is a monument to Burdett's industry and care, arose, it is interesting to note, from a little book published in 1883 entitled "Hints in Sickness: Where to Go and What to Do." In a brief preface of five pages the compiler sketches out the position of voluntary hospitals in 1920, and of the efforts being made on their behalf. In the first chapter the income and expenditure of 842 hospitals are given for the year 1918, being the latest complete twelve-month for which audited accounts are available. In succeeding chapters King Edward's Hospital Fund and the League of Mercy, the Metropolitan Hospital Sunday Fund, and the Hospital Saturday Fund are considered, while the Nursing Department in 1918 and its cost, home and foreign missions, orphanages, the blind, the deaf and dumb, convalescent institutions, and hospital finance also receive attention. The directory part of the volume gives in alphabetical order under subject headings all necessary information for purposes of reference as to British, American, and Colonial hospitals and asylums, medical schools and colleges, nursing and convalescent institutions, consumption sanatoriums, religious and benevolent institutions, and dispensaries, a full index facilitating the finding of any information required. In future years it is hoped to bring out the volume each year in December, and to deal with the figures for the preceding year from reports published in the foregoing April. In general the present issue follows the lines of its predecessors, but minor improvements have been made in the order and division of chapters.

The *Annual Charities Register and Digest* issued by the Charity Organisation Society (London, New York, and India: Longmans, Green, and Co., and the Charity Organisation Society, Vauxhall Bridge-road, S.W. Pp. 608. 5*s.*) is now in its twenty-ninth edition. It is a classified register of charities in or available for the metropolis. The various societies are classified under the heads of relief in affliction, in sickness, in permanent or temporary distress, reformatory relief, and under miscellaneous, which includes social and physical improvement, employment, emigration, and protection of life and of the helpless. The details of the individual institutions comprise objects, address, name of officials, means of admission or of obtaining relief, income, and so forth, facility of reference being aided by a full index. An introduction gives a review of charitable finance for the year, and an appendix contains useful information in regard to benevolent institutions, friendly societies, registry offices, guilds of help, labour exchanges, distress committees, hospital almoners, and children's care committees.

AN APPRENTICE IN CRIME.

PSYCHIATRISTS have long recognised the tendency among mental deficients towards criminality. It appears that this tendency is now being discovered and exploited by the criminal classes themselves. At a recent meeting of the Société Clinique de Médecine Mentale Drs. Marcel Briand and Borel presented a boy, aged 14, who had on two occasions been used as a tool of a professional thief. It is clear that if this practice is at all widespread many mentally deficient children without criminal tendencies in the first place may very soon acquire them. These children, incapable of moral judgment as they often are, should be specially protected by society, which in defending them will at the same time be protecting its own interests.

MALARIA SIMULATES OTHER DISEASES.

THAT chameleon, malaria, furnishes many difficulties in diagnosis to the practitioner in hot countries. Captain D. T. M. Large, in the *Journal of the Royal Army Medical Corps* for November, gives two examples, each of which simulated other, then prevalent, diseases. Twenty-five cases of cholera appeared at Rawal Pindi. A contact of one case developed symptoms of cholera, even to cramp and collapse. Examinations for the cholera vibrio proved negative, as did those for bacillary dysentery. A blood film was found loaded with malignant parasites. The case was cured with quinine. Two other of the contacts had cholera. Again, a case sent down from the frontier as "enteric group," had, on the nineteenth day, a typhosus agglutination present in a 1 to 250 dilution. During a differential count, parasites of malignant malaria were found, and this case also cleared up under quinine. At Rawal Pindi, as elsewhere, the early cases of the year, May to September, are preponderantly benign. Then malignant infections increase and, in the end of November and in December, they become, relatively, the more numerous.

SMITH'S PHYSICIANS' AND SURGEONS' VISITING LIST, 1921.

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The Professional and Business Women's Hospital League.—The secretary of the League writes to call attention to the full title of the League as above, the omission of the word *Hospital* from our annotation last week suggesting a larger scope to which the League makes no claim.

THE LANCET.

No. 5078. LONDON, SATURDAY, DECEMBER 25, 1920. Vol. CXCIX.

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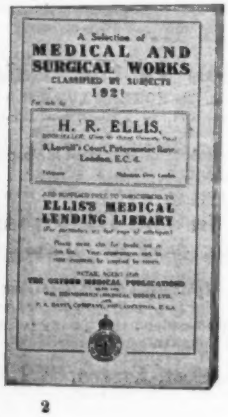

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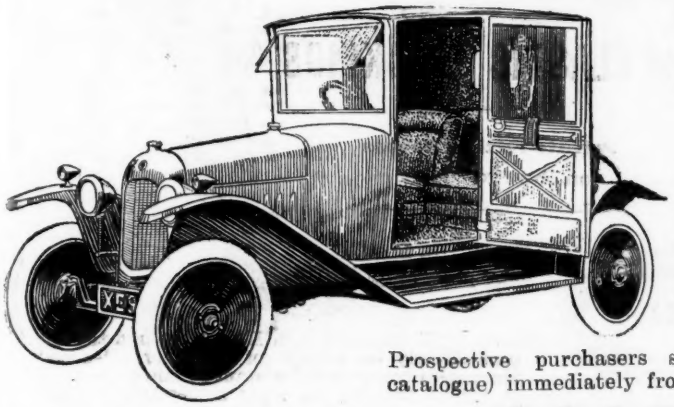

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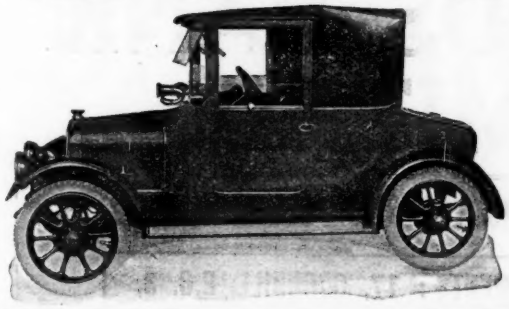

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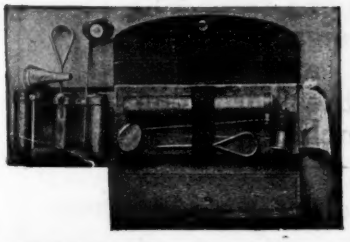

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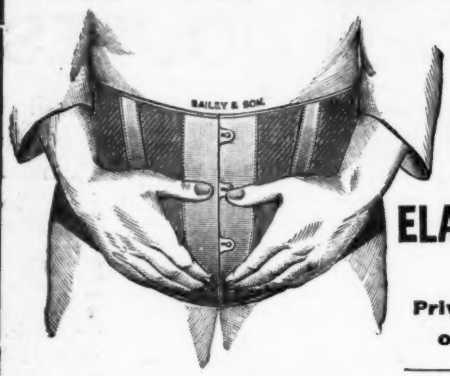

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In consequence of the large number of carriers of influenza, bronchial and "cold" organisms during the present season, it has been found that full doses of prophylactic vaccines occasionally precipitate acute attacks of disease. In order to obviate such attacks, it is recommended that the initial doses be reduced, and that a series of three doses should in every case be administered. For that purpose sets of three graduated doses are now supplied, in 1 c.c. ampoules, respectively containing one-quarter, one-half and the full number of micro-organisms as stated above for the several vaccines. These doses are applicable for adults and young persons over 16 years of age. Younger children should be given half the contents of the ampoule in each case. Prophylactic doses should be given at intervals of ten days; the smaller doses for treatment at intervals of 24 to 48 hours, and larger doses every four or five days.

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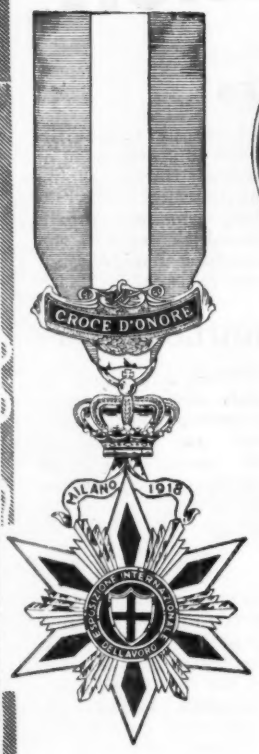

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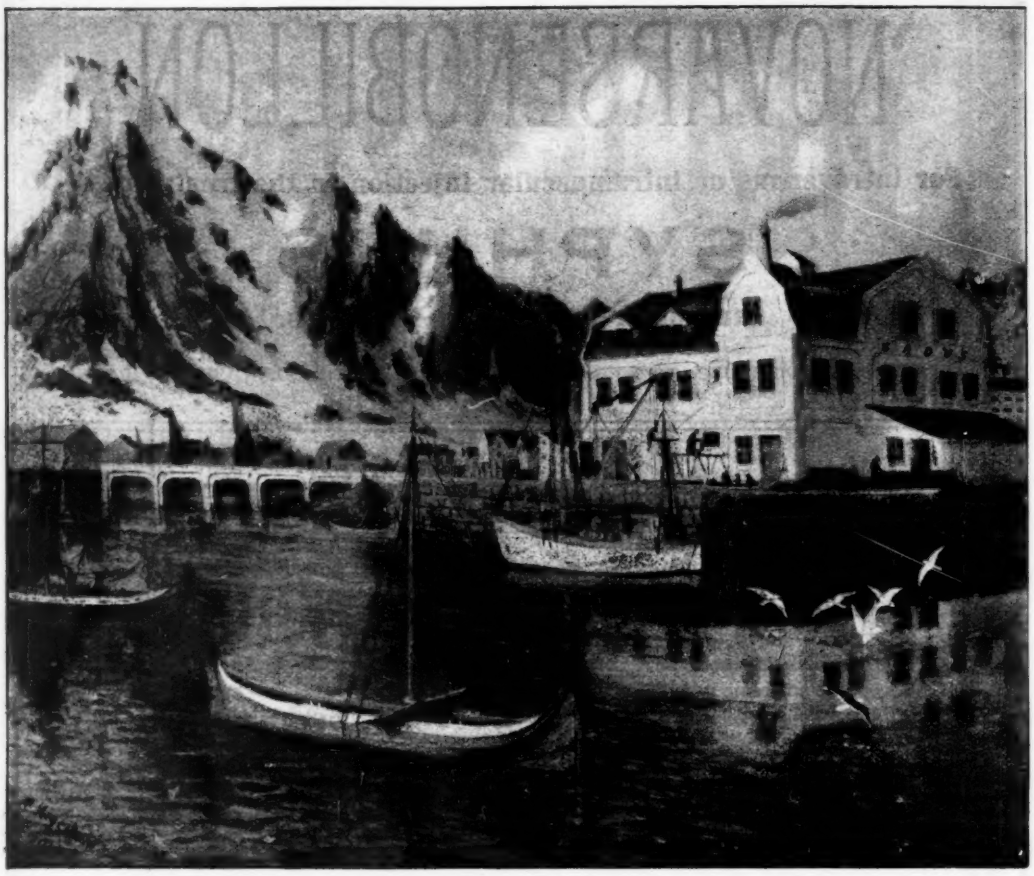

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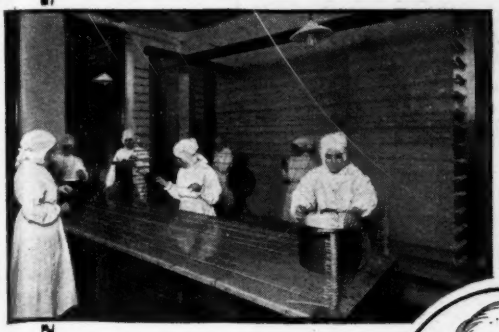

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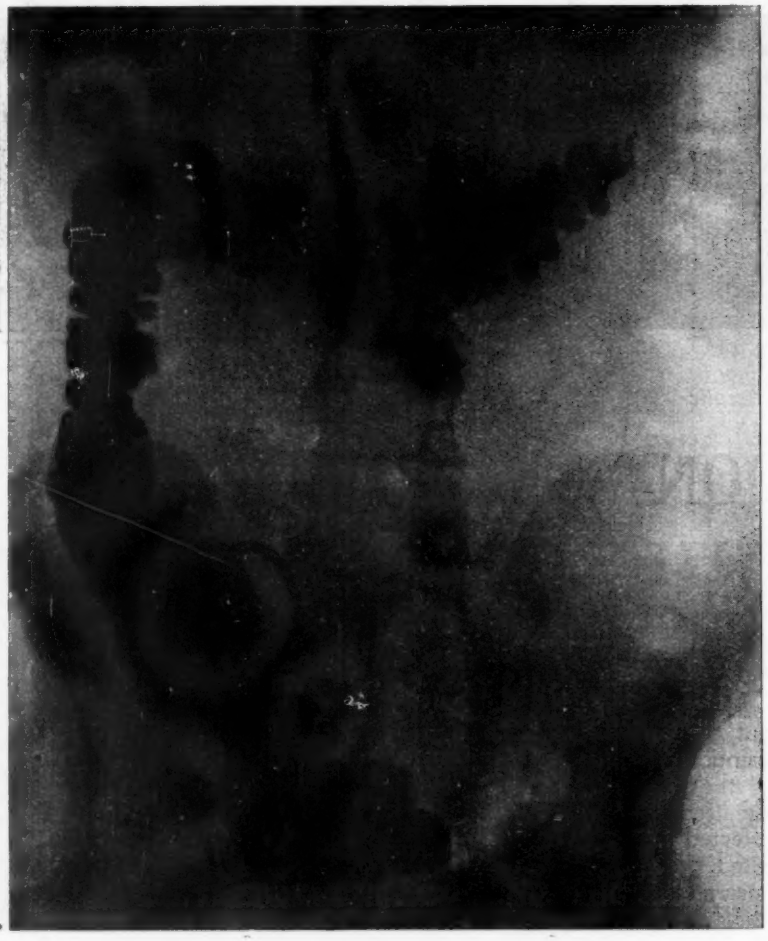

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See article by Dr. Philip Manson-Bahr, D.S.O., M.D., M.R.C.P., on "The Treatment of Human Trypanosomiasis and Kala-Azar" published in *The Lancet*, 24/7/20.

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By means of the Schick Test it is possible to determine whether individuals are susceptible to or immune from diphtheria. In the susceptible, moreover, immunity to diphtheria can be produced by the injection of a toxin-antitoxin mixture. The community has, therefore, in its hands a method of abolishing diphtheria, if it chooses to use it.

In epidemics of the disease the test is of the greatest value; the whole population of a school, for example, can be tested and separated in twenty-four hours into two groups, the immune being allowed to continue school activities, while the susceptible are kept under observation by the bacteriologist.

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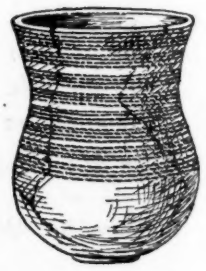

EXAMPLES OF OBJECTS WHICH SHOW THAT THE NEOLITHIC PEOPLE OF DIFFERENT REGIONS IN EUROPE HELD INTERCOURSE WITH EACH OTHER AND WERE THE PIONEERS OF COASTAL NAVIGATION, AND OF THE EARLIEST TRADE ROUTES.—No vestiges have come to light of sea-going vessels belonging to the New Stone Age, but such vessels must have existed because there are many signs of intercourse which could have been achieved by no other means. It is thought that the longer dug-out canoes—perhaps several lashed together—may have been used for the purpose, and that Neolithic tribes may have ventured in them to cross from the Continent to England and from England to Ireland. By the end of the Neolithic Period there was universal intercourse—maritime and terrestrial—by which were brought together the products of Northern and Western Europe, of Africa, and of Asia. Beads of amber from the Baltic, such as the first three beginning at the left of the objects here reproduced, are found scattered over Europe; their diffusion began in Neolithic times. The next are beads of English jet found on the Continent. Beads of callais or caleite follow; these are of uncertain provenance, but they are found in large numbers, especially in Brittany, the Iberian Peninsula and Provence, in circumstances implying importation and appearing to be related to the maritime commerce of the Mediterranean and Atlantic coasts—for they are not found in Central Europe. Evidence of direct intercourse between the west of Sweden and England is considered to be afforded by the presence in Scandinavia of pottery like the example above, which, it is maintained, could have come only from the West.

CULTURE PHASE: NEOLITHIC.

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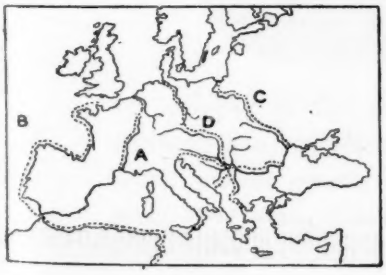
MAP SHOWING THE PRINCIPAL TRADE ROUTES PIONEERED DURING THE NEW STONE AGE.—The products of the different regions of Europe were carried to other parts by four principal routes. Route (A) between the North Sea coast and the Mediterranean by way of the Rhine and Rhone. Long before the Phœnician navigators, hardy mariners, had opened up route (B) from the Eastern Mediterranean by the Straits of Gibraltar to the Atlantic (the route by which, later, the tin of Cornwall reached the markets of Tyre) and perhaps to S.W. England and to Ireland. Finds of amber in tombs along the Vistula and Dniester to the Black Sea, mark the course of an overland trade route (C) from the Baltic, and a fourth (D) following the Elbe, the Moldau and the Danube, branched out and allowed the amber to reach the Adriatic, the Balkans and Greece. It is by the Danube route that certain of the Neolithic peoples are supposed to have entered Europe. "Rome," writes a distinguished archæologist, "had not to open up all the grand trade routes of her Empire. The monumental roads that she constructed in durable stone replaced the paths long ago marked out during the course of ages, by dint of infinite effort, by the ancient inhabitants of Europe." He adds that only now are these modest pathways, by which primitive civilisation was diffused, being patiently traced beneath the seal of Roman paving stones.



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"MY own baby—a premature twin—born by Cæsarean section—and weighing only 3½ lbs., made no progress at all on a most carefully prepared diet of cow's milk with citrate of soda. A tinned condensed milk was tried for a few feeds with no improvement, and then milk from a special cow, but the child remained weak and puny and constantly crying. Glaxo was then started and the child appeared satisfied after the first feed—she started to gain in weight and to sleep well. At six months she is now 16 lbs., and cutting her teeth without difficulty."

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512

25

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Sir ——————
"The Lancet"
December 20th 1919. pp 1123.

2. "Liquid Paraffin, or Russian Mineral Oil, is the agent which, by common consent, is pronounced the most satisfactory in the treatment of these cases." i.e. Intestinal stasis.

W —— S —— B ——
A.M., Sc.D., M.D.
"Chronic Intestinal Stasis"
Womans Medical Journal
January 1914.

3. "In the New Utopia, where stasis will be regarded as a sin more sinister than sedition, and surfeit more unseemly than schism.....the function of the police will be the purveying of paraffin....."

Dr ——————
"The Operative Treatment of Chronic Intestinal Stasis" (1918)
p.p. 263.

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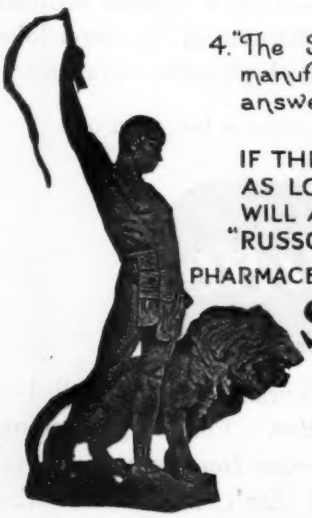

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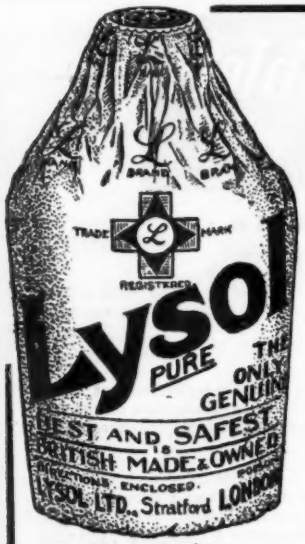

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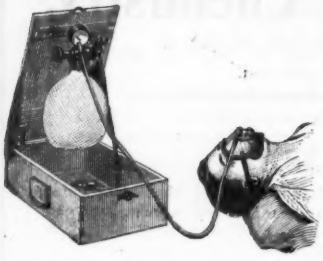

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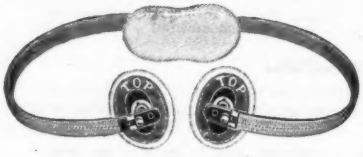

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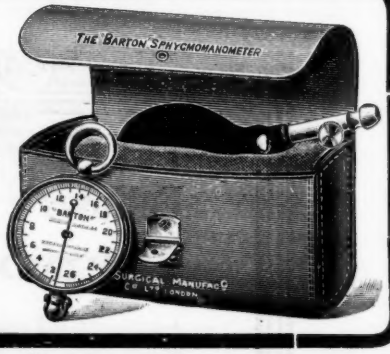

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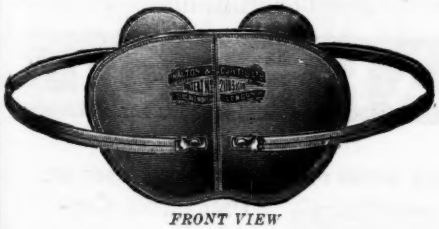

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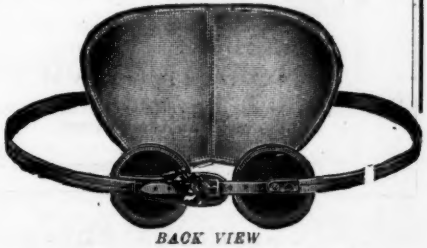

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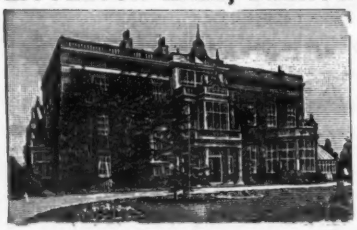

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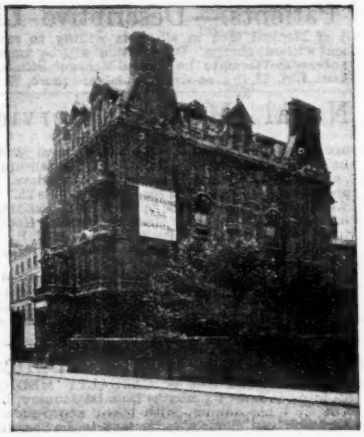

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Home Life, Medical Care, School Education, most suitable for boys subject to Epilepsy. Terms 42s. weekly.

Further particulars may be obtained from Dr. ALAN MCDOUGALL, The Colony, Warford, Alderley Edge.

EPILEPSY. THE DAVID LEWIS COLONY.

Stands in its own grounds of 180 acres and is situated in a beautiful part of Cheshire, 2½ miles from Alderley Edge Station, and 14 miles from Manchester. Electric light throughout. The Colony system ensures the social life and employment most suitable for those who suffer from Epilepsy. Patients certifiable under the Lunacy or Mental Defective Acts are NOT ELIGIBLE for admission. Two Resident Physicians. Terms for Middle- and Upper-class Patients, from 42s. a week upwards, according to accommodation and requirements. Private rooms can be provided.

For further information apply to the Director, Dr. ALAN MCDOUGALL, Warford, near Alderley Edge, Cheshire.

Grove House, All Stretton, Church

STRETTON, SHROPSHIRE.

A PRIVATE HOME for the Care and Treatment of a limited number of Ladies Mentally Afflicted.

Climate healthy and bracing.

Apply to Dr. McClintock, Proprietor and Resident Medical Superintendent.

A small Farm and Garden School

has been opened at THE GREY HOUSE, SEVENOAKS, for GIRLS of the Backward, Borderline, or Nervous type.

A variety of indoor occupations taught.

The School is intended for girls of gentle birth, whose parents or guardians find themselves unable to pay the usual high fees. A few LADIES also received. For terms apply Mrs. PEARCE CLARK.

FUNCTIONAL DISORDERS OF NERVOUS SYSTEM.

Doctor actively engaged in treating

above can receive a few RESIDENT PATIENTS in his charming Country House, South Coast. Every modern convenience. Home comforts. Large gardens. Ample facilities for recreation within easy reach. Terms according to room occupied and amount of active treatment necessary.—Address, No. 475, THE LANCET Office, 423, Strand, W.C.2.

St. Michael's, Broadstairs, Kent.

The Misses G. FLETCHER, R.R.C., CORNELL, and O'REILLY receive INVALIDS for REST, CARE, or CONVALESCENCE.

Charming rooms, sheltered gardens, sea views, and excellent cooking.

Terms:—Five to fifteen guineas per week. ['Phone 195 Broadstairs.

The Princess Christian College,

Fallowfield, Manchester.—There are a few VACANCIES in the Nurseries for Infants and little Children. Every care and attention. South aspect. Large garden. Terms on application to the Principal.

A Resident Patient can be received

by Medical Man's widow in a charming country house, within fifteen miles of Town. Specially suited for nerve, drug, alcoholic, or other cases.—For further details and terms, apply E., care of Mr. Percival Turner, 4, Adam-street, Strand, W.C.2.

Resident Patients.—Descriptive List

(Illustrated) of Medical Men in all parts willing to receive Resident Patients sent without charge. Or selection will be made on statement of nature of case and terms to the General Manager, Scholastic, Clerical & Medical Assn., Ltd., 22, Craven-street, Trafalgar-square, W.C.2

Royal Naval Medical Service.

The next Examination of Candidates for the Royal Naval Medical Service will be held at Examination Hall, 8-11, Queen-square, Bloomsbury, W.C., on the 24th January, 1921, and following days.

The number of appointments to be offered for competition is 25.

The Regulations for Entry and the form to be filled up by Candidates will be supplied on application to the Medical Director-General, Admiralty, 1, Lake-buildings, St. James's Park, London, S.W.1. The form, accompanied by the necessary documents, should be returned not later than the 8th January, 1921.

Candidates must not be under twenty-one nor over twenty-eight years of age on the day of the commencement of the Competitive Examination, and must be registered under the Medical Act in force, as qualified to practise Medicine and Surgery in Great Britain and Ireland.

Middlesex Hospital, W. 1.—Applica-

tions are invited for the post of CASUALTY MEDICAL OFFICER. The appointment is for six months from 1st January, 1921. Salary at the rate of £104 per annum, with board and residence. Applications, together with testimonials, to be sent to the Secretary-Superintendent.

HOUSEHOLD AND SOCIAL SCIENCE DEPARTMENT.

King's College for Women

(UNIVERSITY OF LONDON),

Campden Hill-road, W.8.

There is a vacancy for an ASSISTANT in the Department of HYGIENE and BACTERIOLOGY. Opportunities for research. Salary £450–£500. Apply to the Dean.

Seamen's Hospital Society. — The

Committee of Management invite application for the appointment of PHYSICIAN with Charge of Out-patients at the DREADNOUGHT HOSPITAL, Greenwich. The elected candidates would be appointed for twelve months, but would be eligible for re-election.

Candidates are invited to attend the Meeting of the Medical Council, at the Hospital for Tropical Diseases, Endsleigh Gardens, N.W., on Monday, January 17th, 1921, at 5 P.M.

Applications to be sent in on or before Thursday, the 13th of January, to the undersigned, from whom further particulars can be obtained.

By order. P. MICHELLI, Secretary.

Seamen's Hospital Society. — The

Committee of Management invite application for the appointment of an ANÆSTHETIST at the DREADNOUGHT HOSPITAL, Greenwich. Attendance on Tuesday afternoons. An honorarium of 50 guineas per annum is attached to the post. The elected candidate would be appointed for 12 months, but would be eligible for re-election.

Candidates are invited to attend the Meeting of the Medical Council, at the Hospital for Tropical Diseases, Endsleigh Gardens, N.W., on Monday, January 17th, 1921, at 5.15 P.M.

Applications to be sent in on or before Thursday, the 13th January, to the undersigned, from whom further particulars can be obtained.

By order. P. MICHELLI, Secretary.

The Hospital for Sick Children,

Great Ormond-street, London, W.C.1.—A CASUALTY MEDICAL OFFICER is required on the 10th January, 1921.

Candidates must be registered Medical Practitioners, and are invited to send in their applications, addressed to the Secretary, before 12 o'clock, on Monday, 3rd January, 1921, accompanied by copies of not more than three testimonials given specially for the purpose.

The appointment is made for one year, but may be held, subject to re-election, for a period of three years.

The appointment is non-resident and whole time.

Salary £400 per annum with luncheon.

All candidates must appear before the Joint Committees at their meeting on Wednesday, 5th January, 1921, at 5 P.M. precisely.

Forms of application and copies of the rules may be obtained from the Secretary at the Hospital.

By order of the Committee of Management.

December, 1920. JAMES MCKAY, Acting Secretary.

The Hospital for Diseases of the

SKIN, Blackfriars.—A CLINICAL ASSISTANT is required for Monday afternoons.

Apply to the Secretary.

Metropolitan Hospital, Kingsland-

road, E. 8. (Patron: His Majesty The King).—There is a vacancy for an ASSISTANT SURGEON. Candidates must be Fellows of the Royal College of Surgeons, England, and not engaged in general practice.

Applications, with copies of testimonials, to be sent on or before Monday, January 3rd, 1921, to

A. LISTER HARRISON, Chairman of Management Committee.

Canning Town Women's Settlement

HOSPITAL, Balaam-street, Plaistow, E. 13.—Applications are invited for the post of HONORARY OPHTHALMIC SURGEON to the above hospital to attend at the Out-patient Department on a Tuesday afternoon.

Applications, with testimonials, to be sent, not later than Jan. 7th, to the Hon. Secretary, Miss WOOD, at the above address.

The Prince of Wales's General

HOSPITAL, Tottenham, N. 15.—Applications are invited for the post of HONORARY ASSISTANT OPHTHALMIC SURGEON.

Candidates must be Fellows of one of the Colleges of Surgeons and engaged in the practice of Ophthalmic Surgery only.

Applications, stating age, qualifications, and accompanied by copies of three testimonials, to be sent to me on or before Thursday, the 30th December next. FREDK. W. DREWETT, Director.

University College Hospital.—

Required, a Half-time MEDICAL OFFICER to assist in Clinical Investigation and Research in the treatment of cases of Malignant Disease by Radium, to keep notes and records, and to prepare an annual report in connection therewith.

Salary £250 per annum.

Applications, accompanied by not more than three recent testimonials, must reach the Secretary of the Hospital by noon on Saturday, January 8th, 1921.

St. Thomas's Hospital.—Clinical

MEDICAL UNIT.—Applications are invited for the posts of:—

(1) SENIOR ASSISTANT,
(2) JUNIOR ASSISTANT.

Duration of appointment, two years. Salary: Senior post, £600 Junior, £450 per annum.

The Senior Assistant will act as Assistant Director to the Unit.

Applications, with copies of not more than three recent testimonials, to be forwarded to the Secretary, St. Thomas's Hospital, Albert Embankment, S.E. 1, not later than Tuesday, 4th January, 1921.

Royal London Ophthalmic Hospital

(MOORFIELDS EYE HOSPITAL), City-road, E.C. 1.—Applications are invited for the office of ASSISTANT SURGEON to the above Hospital.

Candidates must be Fellows of the Royal College of Surgeons of England.

Canvassing is not permitted. But candidates are requested to send copies of their application and testimonials to the Members of the Committee of Management and the acting Medical and Surgical staff, whose names and addresses can be obtained on application to the Secretary-Superintendent.

Applications, stating age, with copies of testimonials, must be received not later than 15th January, 1921, by

ROBERT J. BLAND, Secretary-Superintendent.

Parish of Saint Pancras.—Guardians

of the POOR.—ASSISTANT MEDICAL SUPERINTENDENTS.—The Guardians of the Poor of the Parish of St. Pancras invite applications from duly qualified candidates for the positions of Senior and Junior Assistant Medical Superintendent (Male) for the HIGHGATE HOSPITAL, Dartmouth Park Hill, N., with salary for the Senior position at the rate of £300 per annum for his services, with bonus at the rate of £100 5s. 3d. per annum; and for the Junior position salary at the rate of £275 per annum for his services, with bonus at the rate of £95 16s. per annum, together with apartments, board, and laundry in each instance.

Applications to be made (personally preferred) to the Medical Superintendent of the Hospital, from whom further particulars as to duties, &c., may be obtained.

J. E. P. HALL, Clerk to the Guardians.

Town Hall, Pancras-road, N.W. 1, 20th December, 1920.

London County Council.—Applica-

tions are invited for appointment as SIXTH ASSISTANT MEDICAL OFFICER in the London County Mental Hospital Service. Candidates must not be more than thirty-five years of age and must be registered to practise both in Medicine and Surgery in England. Candidates appointed will be pensionable under the Asylums Officers' Superannuation Act, 1909. Preference will be given to candidates who have served, or offered to serve, with H.M. Forces. Salary £300 a year, rising by annual increments of £25 to £400 a year, without emoluments. Also, at present, temporary additions amounting to from £272 to £326 a year. Charges made for board, lodging, &c. (at present two and a half guineas weekly.) Full particulars and conditions of appointment on form of application (on which alone application can be made), obtainable from the Asylums Officer, London County Council, 13, Arundel-street, Strand, W.C. 2. Canvassing disqualifies.

JAMES BIRD, Clerk of the London County Council.

Oxfordshire Education Committee.—

SCHOOL DENTIST.—Applications are invited for the appointment of School Dentist. The person appointed will be required to live in Oxford, devote his whole time to the work, and carry out Inspection and Treatment of Children in Elementary and Secondary Schools in a portion of the County.

Salary will be at the rate of £450 per annum, with travelling expenses and allowances according to the Committee's scale.

Forms of application to be returned, completed, before 31st Dec., 1920, may be obtained from the undersigned,

THE EDUCATION SECRETARY, County Offices, Oxford.

6th December, 1920.

Wolverhampton and Staffordshire

GENERAL HOSPITAL.—A RESIDENT SURGICAL OFFICER (unmarried) wanted. To commence duties 23rd January, 1921.

Candidates must have held the post of House Surgeon in a first-class General Hospital. Abundant opportunities for surgical experience and practice.

The Hospital contains 210 beds and there are four resident officers.

Salary £300 per annum, with board, furnished rooms, and laundry. The appointment is for one year, with eligibility for re-election.

Details of duties may be obtained on application to

W. H. HARPER, House Governor and Secretary.

Wolverhampton, 21st December, 1920.

City of Exeter. — Assistant

TUBERCULOSIS OFFICER and ASSISTANT MEDICAL OFFICER OF HEALTH.—Applications are invited for the joint appointment of Assistant Tuberculosis Officer and Assistant Medical Officer of Health for the City of Exeter. Salary £500 per annum, rising by two annual increments of £50 to £600 per annum.

Previous special experience in the treatment of Tuberculosis is essential.

Application forms and conditions of appointment may be obtained at my office.

Applications, endorsed "Assistant Tuberculosis Officer," accompanied by copies of three recent testimonials, must be received by me not later than 14th January, 1921.

P. H. STIRK, Medical Officer of Health.

5, Southernhay West, Exeter.

Manchester Royal Infirmary. —

Applications are invited for the appointment of HOUSE SURGEON to the SPECIAL DEPARTMENTS (AURAL, GYNÆCOLOGICAL, &c.).

The appointment is for six months. Candidates must be duly qualified. The successful candidate will be provided with board, residence, and allowance for washing during his term of office, and receive a salary of £50.

Applications must be sent in addressed to the Chairman of the Medical Board by 7th January, 1921. By order.

FRANK G. HAZELL, General Superintendent and Secretary.

18th December, 1920

Manchester Royal Infirmary.—

HONORARY ASSISTANT SURGEON.—The Board of Management invite applications for the above appointment. Candidates must be Fellows of the Royal College of Surgeons of England, and are required to forward Diplomas, original testimonials (not exceeding eight in number, and dated), and a certificate of age with their applications, by 9 A.M., on 4th January, 1921, addressed to the undersigned.

Candidates are required to furnish the Secretary with forty-five copies of their application and testimonials for distribution prior to the meeting of the Committee of Election. Canvassing, directly or indirectly, is forbidden, and the Committee reserve to themselves the right, on proceeding to election, to take into consideration any complaint that canvassing on behalf of any candidate has taken place.

By order.

FRANK G. HAZELL, Gen. Supt. and Secretary.

11th December, 1920.

Manchester Royal Infirmary.

ACCIDENT ROOM HOUSE SURGEON,
to commence duty January, 1921.

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment, which is tenable for six months subject to the provision of the By-laws as to notice. Remuneration is at the rate of £200 per annum, with board and residence. Applicants must state age, and send twelve copies of their application and testimonials to the undersigned by Thursday, 6th January, 1921. FRANK G. HAZELL, Gen. Supt. & Secretary,

Manchester Royal Infirmary.

BARNES CONVALESCENT HOSPITAL, Cheadle (136 beds).

RESIDENT MEDICAL OFFICER,
to commence duty January, 1921.

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment, which is tenable for twelve months, subject to the provision of the By-laws as to notice. Remuneration is at the rate of £300 per annum, with board and residence. Applicants must state age, and send twelve copies of their application and testimonials to the undersigned by Thursday, 6th January, 1921. FRANK G. HAZELL, Gen. Supt. & Secretary.

The Hospital for Sick Children,

Newcastle-upon-Tyne (74 beds).—Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (Male). Salary £200 per annum, with board, residence, and laundry. Duties to commence towards the end of December.

Applications, stating age and copies of testimonials, to be sent to the Secretary, Mr. NEIL BRODIE, Star Buildings, 26, Northumberland-street, Newcastle-upon-Tyne.

The Sheffield Royal Hospital.—

Applications are invited for the post of ASSISTANT CASUALTY OFFICER at the above Hospital. Salary £150 per annum, with board, washing, and residence in the Hospital. Candidates must be registered Medical Practitioners and unmarried. Applications, with copies of testimonials, should be sent to me as early as possible.

JOE W. ROBINSON, Secretary.

The Board Room, 6th December, 1920.

The General Hospital, Birmingham.

Applications are invited for the following Resident Appointments:—

RESIDENT ANÆSTHETIST for six months as from December 31st, 1920.

HOUSE PHYSICIAN for six months from January 15th, 1921.

HOUSE SURGEON for six months from April 15th, 1921, preceded by three months' duty as Casualty House Surgeon, commencing January 15th, 1921.

Salary £100 per annum, plus board, residence, and laundry.

HOUSE SURGEON to Special Departments (Skin and Venereal) for six months from February 1st, 1921.

Salary £125 per annum, plus board, residence, and laundry.

Candidates, who must be fully qualified and registered, should send in their applications to the undersigned on or before January 4th, 1921, together with certificates of registration.

December 15th, 1920. P. CROCKER, Acting House Governor.

County Borough of Croydon.

PUBLIC HEALTH DEPARTMENT.

ASSISTANT MEDICAL OFFICER OF HEALTH—MATERNITY AND CHILD WELFARE WORK.

Applications from properly qualified Medical Women are invited for the position of Assistant Medical Officer of Health for the purposes of Maternity and Child Welfare. The Lady appointed will be entrusted mainly with duties (under the Medical Officer of Health) in connection with this section of public health work.

Salary £500 per annum, rising in twelve months to £600.

Applications, upon forms to be obtained from the Public Health Department, Town Hall, Croydon, to be sent (accompanied by copies of not more than three testimonials of recent date) to the Medical Officer of Health, Town Hall, Croydon, not later than 11 o'clock in the forenoon of Monday, the 10th day of January, 1921.

Canvassing in any form is prohibited.

JOHN M. NEWNHAM, Town Clerk.

Town Hall, Croydon, Dec. 14th, 1920.

City and County of Kingston-upon-

HULL.—ASSISTANT TUBERCULOSIS OFFICER.—The Corporation of Hull invite applications for the appointment of a Male (single) Tuberculosis Officer. Salary and bonus £550, with board and residence.

Applicants must have had practical experience in the treatment of tuberculous cases. The successful candidate will be required to assist at the Tuberculosis Sanatorium and also to attend, when required, at the Municipal Tuberculosis Dispensaries for the examination of patients, &c. He will also be required to reside at the Sanatorium and devote the whole of his time to the duties of his appointment.

The Corporation make it a condition that the successful candidate should produce an independent medical certificate as to his health condition from a recognised physician practising in Hull.

Applications, on forms to be obtained from the undersigned, with copies of not more than three recent testimonials, and endorsed "Assistant Tuberculosis Officer," should be forwarded to me not later than Friday, the 31st December, 1920.

J. WRIGHT MASON, Medical Officer of Health.

Guildhall, Hull, 14th December, 1920.

Wilts County Council.—Appoint-

ment of Lady Medical Practitioner as ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH and ASSISTANT SCHOOL MEDICAL INSPECTOR.—The Wilts County Council invite applications from Lady Medical Practitioners for the appointment of Assistant County Medical Officer of Health and Assistant School Medical Inspector. Applicants must be fully qualified Medical Practitioners, and must hold a Diploma in Public Health or an equivalent qualification. The commencing salary will be £600 per annum. The officer appointed will be required to devote her whole time to the duties of the office, and to act under the direction and control of the County Medical Officer of Health, who is also School Medical Officer. The duties of the post will be chiefly concerned with the School Medical Service, but in addition a certain amount of the officer's time will be devoted to the Public Health work of the county, particularly Maternity and Child Welfare. The appointment will be determinable by three months' notice on either side.

Applications (on form to be obtained from the undersigned), together with not more than three recent testimonials, and enclosed in envelope marked "Lady Assistant Medical Officer," to be lodged with the undersigned not later than Wednesday, the 19th January, 1921.

Canvassing, either directly or indirectly, is strictly prohibited, and will be regarded as a disqualification.

W. L. BOWN, Clerk of the County Council.

County Offices, Trowbridge, December, 1920.

Bristol Royal Infirmary.—Applica-

tions are invited for the post of HOUSE SURGEON (three vacancies). Salary at the rate of £120 per annum, together with board, apartments, and laundry. Candidates, who must be qualified, to send in their applications to the undersigned.

ELLIS C. SMITH, F.C.I.S., Secretary.

Royal United Hospital, Bath.—

Wanted at once, a HOUSE SURGEON and a HOUSE PHYSICIAN. Both must be registered Medical Practitioners.

Salary £150 each, with board, lodging, and washing. Applications, with three recent testimonials, must be sent to the undersigned.

J. M. SHEPPARD, F.C.I.S., Secretary.

Leicester Royal Infirmary.—A

vacancy having arisen for a SENIOR HOUSE SURGEON owing to the present occupant receiving a Hospital Staff appointment, applications are invited for the post. Candidates with experience of Hospital and Surgical work preferred. Salary at the rate of £200 per annum, with apartments, &c. Apply immediately to

20th Dec., 1920. H. JOHNSON, House Governor & Secretary.

Gateshead County Borough Mental

HOSPITAL, Stannington, Northumberland.—ASSISTANT MEDICAL OFFICER (Male) wanted. Previous Mental Hospital experience not essential. Salary £340, rising £50 per annum to £500, with allowances of furnished quarters, board, laundry, and attendance. The appointment is subject to the provisions of the Asylum Officers' Superannuation Act, 1919. For form of application, apply, stating age, to the Medical Superintendent.

Victoria Hospital, Burnley (100 beds).

Wanted, Additional HOUSE SURGEON, to begin duty January 1st, 1921. Salary £250, with residence, board, and washing. Candidates, who must be fully qualified, are requested to send in their applications, with copies of testimonials, as early as possible, to F. A. HARGREAVES, Hon. Sec., 7, Grimshaw-street, Burnley.

This Hospital is approved by the London University for the purpose of M.B. and M.S. Examinations.

City Hospital for Infectious Diseases,

Walker Gate, Newcastle-upon-Tyne.—RESIDENT MEDICAL ASSISTANT (unmarried) required for Advanced Tuberculosis Wards, and to assist Tuberculosis Medical Officer in the work of the Tuberculosis Dispensary. Salary £350 per annum, with board and residence.

Applications, stating age and qualifications, together with copies of not more than three testimonials, to be sent to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne, before the 31st December, 1920.

11th December, 1920.

Ministry of Pensions.—Vacancies

exist for Single JUNIOR MEDICAL OFFICERS (Resident) at the undermentioned Hospitals. Salary £350 per annum.

BIRTLEY HOSPITAL, near Newcastle.
BECKETT'S PARK HOSPITAL, Leeds.
CANNOCK CHASE HOSPITAL, near Birmingham.
HOLLYMOOR HOSPITAL, near Birmingham.
KNOTTY ASH HOSPITAL, Liverpool.

Preference given to applicants with War Service.

Address applications to Secretary, M.S.1.B., Ministry of Pensions, 5, Millbank, S.W.1.

Bradford Royal Infirmary.—Resident

SURGICAL OFFICER, with previous Hospital experience, wanted for 1st March, 1921, to supervise the work of the four House Surgeons, and be generally responsible for the Surgical work of the Infirmary.

Candidates must be single and legally qualified. Salary £250, with board and residence. There are 215 beds and six Resident Officers.

Applications, stating age, qualifications, and previous experience, with copies of recent testimonials, to be received by the undersigned not later than Tuesday, 18th January, 1921. Notice will be sent to selected candidates. J. J. BARRON, Secretary-Superintendent.

Royal Mineral Water Hospital, Bath.

Special Hospital for Rheumatism, Arthritis, &c. (136 beds).—Applications are invited from qualified Medical Men for the post of RESIDENT MEDICAL OFFICER.

Salary at the rate of £200 per annum, increasing to £250 after six months, with lodging, board, and washing.

The appointment offers good opportunities for the study of chronic joint diseases and bacteriology.

Applications, stating age and qualifications, accompanied by testimonials, should be sent to the Registrar.

December, 1920.

The Royal Infirmary, Sheffield.—A

vacancy having arisen in the post of SURGICAL REGISTRAR to the Royal Infirmary, Sheffield, the Weekly Board invite applications for the post.

Candidates must be Fellows of the Royal College of Surgeons, England, and the successful candidate will not be allowed to engage in general practice. The post is tenable for one year, and the holder will be eligible for re-election.

The salary is £150 per annum.

Applications, stating age and qualifications, together with copies of testimonials, to be sent to the undersigned.

Board Room, 15th December, 1920. JNO. W. BARNES, Secretary.

Hull Royal Infirmary, Hull.—Wanted at once, ASSISTANT HOUSE SURGEON. Salary £150 per annum, with board and residence.
Applications, together with copies of recent testimonials, should be addressed to B. BROOKS, Secretary.

Doctor wanted at a Medical Mission in Manchester on Tuesday afternoons from 2.30 to 5. Man or Woman. Honorarium £64 12s. per annum. One in sympathy with Christian work essential.—Apply, Rev. C. Wilson, The Mission House, 230, Bury New-road, Manchester.

Newark Hospital and Dispensary.—Wanted, a Male RESIDENT HOUSE SURGEON, fully qualified, to commence duties at once. Ample time for reading. Salary £200 per annum, with board, lodging, and laundry in the Hospital. Applications, stating age, with copies of three recent testimonials, to be sent to the Secretary, HENRY CRAMPTON, 27, Kirk Gate, Newark-on-Trent.

Nottingham City Asylum.—Second ASSISTANT MEDICAL OFFICER wanted, Male, unmarried. Salary £400 per annum, with board, apartments, and laundry, subject to the provisions of the Asylum Officers' Superannuation Act. Previous experience in lunacy work not essential. Apply, stating age and qualifications, and enclosing copies of recent testimonials, to Medical Superintendent.

Bristol General Hospital.—The Committee invites applications for the appointment of SURGICAL REGISTRAR.
The appointment will be made for one year and the holder will be eligible for re-election. Candidates must be fully qualified.
Applications, stating age, qualifications, &c., accompanied by copies of testimonials, to be delivered to the undersigned by Monday, January 10th, 1921, from whom further particulars as to the duties of the post may be obtained. THOMAS W. GREGG, Secretary.

COLONIAL SERVICE.

Medical Officers are required for the WEST AFRICAN MEDICAL STAFF, and also for the GOVERNMENT SERVICE in MALAYA, the EAST AFRICAN PROTECTORATES, the WEST INDIES (including BRITISH GUIANA), FIJI, and the WESTERN PACIFIC, &c., &c.

The conditions of service differ widely in the various Colonies and Protectorates, but in general the appointments are permanent and pensionable (after a period of probation), and free passages are provided to the place of appointment.

Particulars of vacancies and forms of application can be obtained from the

Assistant Private Secretary (Appointments),
Colonial Office,
Downing Street,
London, S.W.1.

Ship's Surgeon. — Messrs. Elder Dempster and Co., Limited, have a few vacancies for Surgeons in their West African Service. Pay £20 per month. Fees allowed for attendance on passengers. Length of voyage varies from six to ten weeks, according to particular route.—Apply, Medical Superintendent, Messrs. Elder Dempster and Co., Limited, Colonial House, Liverpool.

Woodilee Mental Hospital, Lenzie, near Glasgow.—ASSISTANT MEDICAL OFFICER (Male), fully qualified, required. Salary £350 per annum, all found. Apply, Medical Superintendent.

Bombay School of Tropical Medicine.
The Tropical Diseases Committee of the Royal Society, acting for the Indian Government, invite applications for the post of TATA PROFESSORS of (1) CLINICAL MEDICINE and THERAPY, (2) PROTOZOOLOGY, for the School and Hospital of Tropical Medicine about to be established in Bombay.
The salary will be, in each case, from 1500 to 3000 rupees a month, according to the scientific standing of the candidates.
The appointments are whole-time, and are made for five years in the first instance, but may be extended by the Government on the recommendation of the Governing Body of the School. No pension is attached, but the Professors will be given the benefit of a contributory provident fund fixed by the Government of Bombay. Furlough for six months out of India on full pay will be granted for every period of five years, and, in addition, "study leave" on furlough pay may be granted.
Applications, which should specify age, qualifications, and tropical and other experience, must reach the Secretary, the Royal Society, Burlington House, London, W., not later than 31st March, 1921.
The names and addresses of three persons to whom reference may be made should be given, and candidates may submit copies of testimonials.

Ministry of Agriculture and Fisheries.—Applications are invited for posts as PROBATIONER NATURALISTS in the Fisheries Department. The salary, inclusive of bonus, will be £300, plus travelling and subsistence expenses. Candidates should have graduated in a British, Irish, or Colonial University with a general training in Science, and should possess special knowledge of Zoology, Mathematics, Chemistry, Oceanography, or Bacteriology. Preference will be given to men who have seen active service in the war. Candidates should be not more than thirty years of age.
Application forms can be obtained from the Secretary, Ministry of Agriculture and Fisheries, Whitehall-place, S.W.1., and must be returned not later than January 12th next.

Locum Tenens Provided
at short notice.
Apply to Mr. PERCIVAL TURNER,
the oldest and only Agent who for forty years, *without agency fee to Principals*, has supplied Practitioners with reliable substitutes,
4 & 5, ADAM STREET, ADELPHI, STRAND, W.C.2.
Telegrams: Epsomian, London. Telephone: Gerrard 309.
After 5 P.M.—Tel. Epsom 695.

Locum Tenens Provided.
APPLY TO
ARNOLD & SONS,
6, GILTSPUR STREET, LONDON, E.C.1.
Telegrams: "Instruments, London." Telephone: 5240 City (3 lines).

Medico in charge of large Estates in South India, shortly returning home, desires good APPOINTMENT. Age forty-four, married; highly qualified Physician and Surgeon; four years' War Service in France; Specialist in Tropical, Mental, and Venereal Diseases; experience gained in South Africa, Australia, and Canada; also in charge of Hospitals in France.—Address, No. 522, THE LANCET Office, 423, Strand, W.C.2.

Lady with long experience as CHAUFFEUSE in France and England, and with experience and full qualifications in Dispensing, would like a post with a Doctor in town or country. Will drive her own car if desired.—Reply, Veterans' Agency, Limited, 10A, Featherstone Buildings, High Holborn, W.C.

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